

## FMCSA OVERVIEW

# Training Provider Handbook: FMCSA Overview–Module Overview

### Goal

FMCSA certified medical examiners will assess the driver's medical fitness for duty using Federal driver qualification standards and medical guidelines and with an awareness of the physical, cognitive, and behavioral demands associated with the job of commercial driving. Examiners will, to the best of their ability, make certification decisions that reduce the risk for crashes, injuries, and fatalities for which a contributing factor is failure of the driver to be medically fit for duty.

### Competencies

Training should prepare the examiner to appropriately apply knowledge of FMCSA driver physical qualification standards and medical guidance, and to use other FMCSA resources in the performance of medical examinations. Also, certification test items directly assess these tasks. The competencies identified within this module are considered global competencies because they either apply to every certification examination (e.g., Identify the driver) or they apply to most if not all the qualification standards.

Training should include a review of the minimum medical examiner responsibilities for obtaining driver medical history. As needed use standard specific examples to introduce and later to reinforce cognitive recall, application and analysis skills related to global critical tasks.

### Identification and History

- Identify, query, and note issues in a driver's medical record and/or health history as available, which may include:
  - Verify the identity of the driver
  - Ensure the driver signed the driver's statement about health history
  - Identify, query, and note issues in a driver's medical record and/or health history as available, which may include:
    - specifics regarding any affirmative responses in the history
    - any illness, surgery, or injury in the last five years
    - any other hospitalizations or surgeries
    - any recent changes in health status
    - whether he/she has any medical conditions or current complaints
    - any incidents of disability / physical limitations
    - limitations placed during prior FMCSA examinations
    - current OTC and prescription medications and supplements, and potential side effects, which may be potentially disqualifying
    - other conditions that could impair a driver's ability to safely function

### Physical Examination and Evaluation

**NOTE:** The critical task stems for the following competencies describe minimum expectations for medical examiners to obtain sufficient medical evaluation to determine driver health and to document ancillary information. The detail tasks, noted in parentheses, are listed in specific standards module competencies.

- Ensure the driver is properly clothed for the physical examination
- Record height and weight, and note whether the driver is overweight or underweight
- Examine eyes and note
- Examine ears and note
- Examine mouth and throat, and note conditions that may interfere with breathing, speaking, or swallowing
- Examine neck and note

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- Examine heart Examine lungs, chest, and thorax, excluding breasts, and note
- Examine abdomen and note
- Examine spine and note
- Examine extremities and note
- Examine neurologic status and note
- Examine urine and note specific gravity, protein, blood, and glucose
- Examine mental status and note

### Health Education Counseling

**NOTE:** The following critical tasks are global tasks. The medical examiner should provide the driver with appropriate explanation, advice, information, and decision rationale. Body system specific tasks and examples are also included in the corresponding module competency lists.

- Explain to a driver consequences of non-compliance with a care plan for conditions that have been advised for periodic monitoring with primary healthcare provider
- Advise a driver:
  - regarding side effects and interactions of medications and supplements (e.g., narcotics, anticoagulants, psychotropics) including those acquired over the counter (e.g., antihistamines, cold and cough medications) that could negatively affect his or her driving
  - that fatigue, lack of sleep, undesirable diet, emotional conditions, stress, and other illnesses can affect safe driving
  - with contact lenses he or she should carry a pair of glasses while driving
  - with a hearing aid he / she should possess a spare power source for the device while driving
  - who has had a deep vein thrombosis event of risks associated with inactivity while driving and interventions that could prevent another thrombotic event
  - has diabetes about blood glucose monitoring frequencies and the minimum threshold while driving
  - with a diabetes exemption, he / she should:
    - possess a rapidly absorbable form of glucose while driving
    - self-monitor blood glucose one hour before driving and at least once every four hours while driving
    - comply with each condition of his/her exemption
    - plan to submit blood glucose monitoring logs for each annual recertification
- Inform the driver of the rationale for delaying or potentially disqualifying certification, which may include
  - the immediate post-operative period
  - vision disability (e.g., retinopathy, macular degeneration)
  - cardiac even (e.g., myocardial infarction, coronary insufficiency)
  - chronic pulmonary exacerbation (e.g., emphysema, fibrosis)
  - uncontrolled hypertension
  - endocrine dysfunctions (e.g., diabetes)
  - musculoskeletal challenges (e.g., arthritis, neuromuscular disease)
  - neurologic event (e.g., seizures, stroke, TIA)
  - sleep disorder (e.g., obstructive sleep apnea)
  - mental / emotional health (e.g., depression, schizophrenia)
  - mental health dysfunctions (e.g., depression, bipolar)

### Risk Assessment

- Consider a driver's ability to
  - couple and uncouple trailers from a tractor
  - load or unload several thousand pounds of freight

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- install and remove tire chains
- manipulate and secure tarpaulins that cover open trailer
- move one's own body through space while climbing ladders; bending, stooping, and crouching; entering and exiting the cab
- manipulate an oversized steering wheel
- shift through several gears using a manual transmission
- perform precision prehension and power grasping
- use arms, feet, and legs during CMV operation
- Review Skill Performance Evaluation (SPE) cases
- Consider a driver's cognitive ability to
  - plan a travel route
  - inspect the operating condition of a tractor and/or trailer
  - monitor and adjust to a complex driving situation
  - maneuver through crowded areas
  - quickly alter the course of vehicle to avoid trouble
- Consider general health and wellness factors such as
  - adverse health effects associated with rotating work schedules and irregular sleep patterns
  - long-term effects of fatigue associated with extended work hours without breaks
  - risk factors associated with common dietary choices available to drivers
  - stressors likely associated with extended time away from a driver's social support system
  - short- and long-term health effects of stress from tight pickup and delivery schedules
    - irregular work, rest, and eating patterns / dietary choices
    - adverse road, weather, and traffic conditions
    - exposure to temperature extremes, vibration, and noise
    - transporting passengers or hazardous products
- Integrate FMCSA medical advisory criteria and guidelines regarding a driver's condition into the risk assessment
- Consider for documented conditions the rate of progression, degree of control, and likelihood of gradual or sudden incapacitation, examples include
  - cardiovascular
  - neurologic
  - respiratory
  - musculoskeletal
- Support the rationale for using FMCSA guidelines that have not been published in regulations yet

### **Certification Outcomes and Intervals**

- Apply certification standards to qualify or disqualify a driver
- Disqualify a driver who:
  - is currently taking methadone
  - has a current clinical diagnosis of alcoholism uses a controlled substance including a narcotic, an amphetamine, or another habit-forming drug without a prescription from the treating physician
- Disqualify a driver when evidence shows a condition exists that will likely interfere with the safe operation of a CMV, which may include sufficient supporting opinions and information from specialists
- Document the reason(s) for the disqualification and/or referral
- Advise a driver of the reasons for a disqualification decision and what a driver could do to become qualified
- Certify a driver for an appropriate interval
- Indicate certification status, which may required
  - waiver / exemption, which the medical examiner identifies

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- wearing corrective lenses
- wearing a hearing aid
- Skill Performance Evaluation Certificate
- Advise a driver certified with a limited interval to return for recertification with the appropriate documentation for his or her condition)
- Complete a medical examination report and medical certificate / card ensure use of currently required examination form ensure the form includes the examiner's name, examination date, office address, and telephone number ensure the driver signs the medical certificate / card \

**NOTE:** Current clinical diagnosis is discussed in the advisory criteria for Alcoholism on the Medical Examination Report form.

### FMCSA Content Sources

#### Rules & Regulations

At the completion of training, the medical examiner should be aware of the following Federal regulations and have an awareness of how they relate to driver certification. The examiner should recall the regulation that cites driver physical qualification standards and the regulation that cites medical examiner responsibilities.

- Subpart A—General applicability and definitions §390.5 Definitions
- Subpart E—Physical qualifications and examinations emphasize
  - 49 CFR 391.41 Physical qualifications for drivers
  - 49 CFR 391.43 Medical examination; certificate of physical qualification
- Subpart G—Limited exemptions emphasize
  - 49 CFR 391.62 Limited exemptions for intra-city zone drivers
  - 49 CFR 391.64 Grandfathering for certain drivers participating in vision and diabetes waiver study programs
  - 49 CFR Part 40 DOT Procedures for Drug and Alcohol Testing
  - 49 CFR Part 381 Waivers/Exemptions/Pilot Programs
  - 21 USC Sec. 812 U.S. Drug Enforcement Administration

#### Regulation Guidance

FMCSA Medical Examiner Handbook

- Part I—General FMCSA Information
- Part II—The Job of Commercial Driving
- Part III—Medical Examination Guidelines
- Part IV—Physical Qualification Standards - particularly:
  - Regulations Versus Medical Guidelines (Guidance)
  - Ongoing standards and guidelines Review Process

#### Related FMCSA Web Site Resources

- FMCSA Medical Programs
- Driver Exemption Programs
- Skill Performance Evaluation (SPE)
- About FMCSA

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- [Medical Examination Form \(PDF\)](#)

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Topic 1: Background, rationale, mission, and goals of the FMCSA medical examiner's role in reducing crashes, injuries, and fatalities involving commercial motor vehicles.

## About FMCSA

### Background

- Identify the Federal Motor Carrier Safety Administration (FMCSA) as one of nine administrations established within the U.S. Department of Transportation agencies.
- Identify the Office of Medical Programs as a key FMCSA driver safety program.
- Recall that the proposed National Registry of Certified Medical Examiners is under the direction of the Office of Medical Programs.
- Give an example of documenting the reason(s) for a certification decision that does not conform with guidelines.

### Rationale

- List entities that FMCSA regulates, including: drivers, vehicles, and motor carriers.
- Discuss why regulation is needed to protect public safety, which may include describing why crashes involving a commercial motor vehicle (CMV) can be catastrophic; rationale includes:
  - There is a greater risk of injury and fatalities to individuals in smaller vehicles.
  - There is a risk to environment and persons when crashes involve hazardous materials.
  - Some commercial vehicles carry many members of the public.
  - The economic cost of these crashes is exceedingly high.

### Mission

- Discuss the missions of FMCSA and the proposed National Registry of Certified Medical Examiners.
- Review FMCSA strategies to achieve goals including:
  - Develops and enforces data-driven regulations that balance motor carrier (truck and bus company) safety with industry efficiency.
  - Employs safety information systems to focus on higher-risk carriers in enforcing safety regulations. Targets educational messages to carriers, commercial drivers, and the public.
  - Partners with stakeholders, including Federal, State, and local enforcement agencies, the motor carrier industry, safety groups, and organized labor in efforts to reduce bus and truck crashes.
- List the FMCSA Medical Programs responsibilities including to:
  - Oversee the national medical certification process for commercial motor vehicle drivers who operate in interstate commerce.
  - Develop and implement medical regulations, policies, and procedures.
  - Oversee and support the Medical Review Board in accordance with the Federal Advisory Committee Act.
  - Develop and implement the national registry program – a national medical examiner system and a linked national driver medical reporting system.
  - Conduct and oversee the Agency's medical exemption and certificate programs.
  - Serve as the lead Federal Agency for the regulation of commercial motor vehicle driver health and safety and conduct relevant medical research.
- Explain that the Code of Federal Regulations (CFR) are laws that must be followed.
- Recall the locations of driver physical qualification regulations found in 49 CFR 391.41 Subpart E—Physical qualifications and examinations.
- Explain the difference between FMCSA medical standards and medical guidelines.
- Discuss the ongoing process FMCSA uses to update current, and develop new, medical fitness for duty standards and guidelines.

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## **Medical Examiner Role**

- Recall the purpose of the Federal CMV driver physical examination.
- Differentiate between the goals of the medical examiner and goals of the primary care or specialist provider.
- Recall who is responsible for determination of CMV driver medical certification status.

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Topic 2: Familiarization with the responsibilities and work environment of commercial motor vehicle (CMV) operation.

## About the Job of Commercial Driving

### Safety Considerations

#### Factors that Contribute to Job-related Stress

- Identify CMV driving factors that contribute to the commercial driving job-related stress, including:
  - Route, scheduling, and traffic environment stresses.
  - Road, traffic, weather, and night time driving.
  - Vehicle size, noise, vibration, and sleeper environment.
  - Types of cargo (e.g., hazardous or passenger).

### Driver Responsibilities

- Identify duties in addition to the driving task for which a driver is responsible and needs to be medically fit for duty, including:
  - Coupling and uncoupling trailer(s) from the tractor.
  - Loading and unloading trailer(s).
  - Inspecting the operating condition of tractor and/or trailer(s) before, during and after delivery of cargo.
  - Lifting, installing, and removing heavy tire chains.
  - Lifting heavy tarpaulins to cover open top trailers.

### Driver Population

- Discuss that the driver population exhibits the same characteristics that are prevalent in the general population, including age distribution of work force and age-related medical conditions.
- Discuss health risks associated with aging and obesity including:
  - High risk for chronic disease.
  - Increased risk for fixed deficits.
  - Increased risk for gradual or sudden incapacitation.
  - Increased likelihood of comorbidity.

### Safety Considerations

- Identify and discuss CMV driver job-related safety implication that should be considered when making the certification determination, including:
  - Is the severity of physical condition disqualifying because:
    - The symptoms, even if medically benign, interfere with the ability to drive?
    - The onset of symptoms may be so fast that the driver may be unable to stop the vehicle safely before becoming incapacitated?
    - The onset of symptoms may be so gradual that the driver is unaware of diminished ability to operate a CMV safely.
  - Is the presence of a mental or physiological condition disqualifying because it interferes with:
    - Cognitive abilities used to process environmental cues rapidly and make appropriate responses?
    - Problem solving skills used to function independently of direct supervision in a new environment or in the event of an emergency?
    - Behavioral inhibitors that suppress inappropriate, irresponsible, or possibly violent actions?
  - Is the use of a medical treatment:



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- Qualifying because it controls a physical and/or mental condition allowing the driver to perform tasks more safely than without treatment?
- Disqualifying because the effects, even if medically optimal interfere with safe driving?
- Disqualifying because the side effects interfere with safe driving?

### **Diabetes Mellitus Standards Objectives**

#### **Diabetes Mellitus Safety Implications**

- Give three examples of symptoms of hyperglycemic or hypoglycemic reactions that can lead to incapacitation of the driver.
- Discuss why preventing hypoglycemia is the considered the most critical and challenging safety issue for any driver with diabetes mellitus.
- Discuss how the risk of comorbidities may affect driver ability to safely operate a CMV.

#### **Work Environment Affects Management of Diabetes Mellitus**

- Discuss how the demands of driving commercial vehicles compound the risk associated with diabetes mellitus such as poor diet and/or missed meals, lack of sleep, emotional conditions, and stress.
- Relate how factors related to long-haul commercial motor vehicle operations compound the risks associated with the use of insulin.

#### **Diabetes and Driver Communication**

- Compare how driver ability to communicate the need for medical assistance is affected by hypoglycemia and hyperglycemia.

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Topic 3: Obtaining, reviewing, and documenting driver medical history, including prescription and over-the-counter (OTC) medications.

## Health History

### Obtaining

- Reference the Medical Examination Report form health history as the minimum guideline for obtaining driver history used to determine medical fitness for duty.
- Discuss the importance of obtaining an accurate and complete driver health history.
- Recall that driver is to:
  - Complete the Medical Examination Report form Driver Information and Health History sections.
  - Disclose if known, onset date, diagnosis, treating physician's name and address, and/or any current limitation for positive history.
  - List all current or recently used medication, including over-the-counter drugs and supplements.
- Explain that by signing the Medical Examination Report form the driver certifies that the information provided is complete and true.

### Reviewing

- Recall that the medical examiner or examiner trained assistive staff should:
  - Verify the identity of driver, preferably using at least one government issued photo identification form (e.g. driver's commercial license).
  - Confirm the identification form information and medical record driver information match.
- Discuss the purpose of reviewing driver health history is assist in determination of driver medical fitness for duty.
- Give examples of why negative history might be inaccurate (e.g., driver erroneously applied "last 5 years" time frame to all health history questions or was unaware that a same-day, minimally invasive procedure is surgery).
- Recall that the medical examiner must review and discuss:
  - Any health history "yes" answers.
  - Potential for medication effects or side effects that interfere with safe driving.
- Discuss why medical examiners should ask about symptoms of diseases to evaluate the ability to drive safely and effectively on function and relevant history rather than relying solely on history of diagnosis.
- Discuss the importance of ensuring that medication history discloses:
  - If the effects of medication contribute to the ability to drive safely.
  - If the effects or side effects of medication interfere with the ability to drive safely.
  - Increased risk for sudden or unperceived interference with the ability to drive safely resulting from:
    - Drug interactions with another drug, food, and/or supplement.
    - Synergistic effects from a combination of prescription and/or over-the-counter medications.
    - Reactions to a new medication or one with a narrow therapeutic range.
    - Reactions to a single late or missed dose of a medication.

### Documenting

- Ensure that driver has completed both sections, signed, and dated the Medical Examination Report form.
- When appropriate, request specific report details as treating provider may not be familiar with CMV driver physical qualification requirements:
  - Request medical details (e.g., dates, treatment effects and/or side effects, test results, etc.) identified by regulation and/or recommendations.
  - Ensure appropriate medical information release forms are provided when required.

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- Include supporting documentation with Medical Examination report form.
- Fully document health history review, which includes:
  - Noting the discussions of medication effects and/or side effects that can interfere with driving.
  - Identifying when history indicates additional tests or evaluation are required to make a certification decision.
  - Explaining if health history is cause for disqualification.

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Topic 4: Performing, reviewing, and documenting the driver's medical examination.

## Physical Examination

### Performing

- Recall that the Medical Examination Report form describes the minimum physical examination required for determining driver certification.
- Discuss medical examiner responsibility to adequately assess medically fit for duty may require additional driver testing and/or medical evaluation by primary care provider and/or specialist provider.
- Identify the four tests required as a part of every driver certification and recertification examination:
  - Vision
  - Hearing
  - Blood Pressure/Pulse
  - Urinalysis (dipstick)
- Review the body systems listed in the physical examination section, noting that check for lists are minimum examination requirements.
- Discuss implications of general examination (e.g., medical examiner must be able to inspect for scars, therefore driver must disrobe).

### Reviewing

- Recall that all abnormal findings are to be noted.
- Distinguish between disqualifying and non-disqualifying abnormalities.
- Discuss the rationale for why a medical examiner may choose to temporarily disqualify, including:
  - Obtain additional testing or evaluation.
  - Conform with recommended waiting periods (e.g., post-surgical minimum recovery, newly started on medication or treatment).
- Discuss the importance of ascertaining the affect of a condition or treatment on the driver's ability to operate a commercial motor vehicle safely.
- Discuss medical examiner responsibility to distinguish between optimal medical treatment, prognosis, and risk to public safety.

### Documenting

- Review Medical Examination Report form instruction for documenting physical examination.
- Recall that all abnormal findings must be documented.
- Recall that noting the affect on driving ability is required.
- Give examples of noting that organic disease has or has not been compensated for adequately for driver certification.

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Topic 5: Performing, obtaining, and documenting additional diagnostic tests or medical opinion from a medical specialist or treating physician.

## Additional Diagnostic Tests and Medical Expert Opinion

### Performing

- Distinguish between testing and evaluation to diagnose and treat the driver and testing and evaluation to determine medical fitness for duty and to protect public safety.
- Give examples of examination finding that may indicate the need for additional testing and/or evaluation, such as:
  - An abnormal urinalysis.
  - An occurrence of cardiovascular insufficiency.
  - Abnormal affect at examination.
  - Recently prescribed treatment or medication.
- Give examples of additional tests the examiner might perform, such as:
  - Random blood glucose.
  - Pulse oximetry.

### Obtaining

- Give examples of additional tests that the examiner might require, such as:
  - Arterial blood gas analysis (ABG).
  - Stress exercise tolerance test (ETT).
  - Sleep studies.
  - Drug test.
- Distinguish between the role of consulted healthcare providers to adequately assess driver health and the medical examiner role to determine medical fitness for duty.
- Give examples of additional evaluations that a examiner might require, such as:
  - Report of the effectiveness of procedure, surgery, or treatment.
  - Evaluation of medication effects and/or side effects.
  - Results of cognitive and/or behavioral evaluation.
  - Evaluation of completion and success of rehabilitation program.

### Documenting

- Recall that test results and consulting provider reports are to be included with the Medical Examination Report form.
- Discuss the advantages of providing appropriate documentation to increase the likelihood of obtaining adequate evaluation report information, including:
  - Copy of Medical Examination Report form, including the driver role.
  - Medical release form.
  - Copy of or list of applicable regulation and/or medical guidelines assessment criteria.
  - Medical examiner contact information.
- Recall that “medical clearance to driver” from a consulting provider is an opinion with which the medical examiner may or may not concur. The medical examiner makes the qualification decision.
- Discuss rationale for FMCSA reliance on FMCSA Certified Medical Examiners to determine driver certification, including the medical examiner knows the:
  - Driver physical qualification requirements.
  - Physical, mental, and behavioral demands of commercial driving.
  - Driver is certified for the driver’s role, not a specific job description which may be less demanding.

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- Limitations of medical examiner role (e.g., cannot limit driving to daylight hours, etc.).

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Topic 6: Informing and educating the driver about medications and nondisqualifying medical conditions that require remedial care.

## Informing and Educating

### Medications

- Recall that potential effects and risks associated with use of medication and supplements should be discussed with the driver and may include:
  - Identifying possible side effects, interaction, and/or synergistic affects that interfere with driving ability.
  - Advising driver to read warning labels on all medications.
  - Recommending that the driver carry extra medication when driving so that doses are not missed due to trip delays.
  - Recommending that the driver have a method for refilling prescription when driving.
  - Educating the driver that the effectiveness of medications can be affected by improper storage, including exposure to light, heat, cold, and moisture.

### Nondisqualifying Medical Conditions

- Recall that potential risks to driver and public safety associated with the job of commercial driving should be discussed with the driver.
- Discuss discussing the rationale for delaying or potentially disqualifying the driver and may include:
  - Recommended waiting periods.
  - Presence of or unacceptable risk for occurrence of disqualifying symptom.
  - Presence of or unacceptable risk for disqualifying effect of medication or treatment.
- Recall that the option of applying for a Federal exemption should be discussed with the otherwise medically qualified driver with monocular vision or diabetes mellitus who uses insulin.

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Topic 7: Determining driver certification outcome and period for which certification should be valid.

## Determining Driver Certification

### Determine Driver Certification

- Recall that FMCSA relies on the medical examiner to assess and determine when a person is medically fit to operate a commercial motor vehicle (CMV) in interstate commerce.
- Recall that the medical examiner who signs the Medical Examination Report form is the examiner accountable for the driver certification decision.
- Discuss the fundamental issue of risk to public safety for determining driver certification. Does the driver have a condition or treatment that:
  - Interferes with the ability of the driver to safely operate a CMV.
  - Poses an unacceptable risk for gradual or sudden incapacitation.
- Recall that medical examiner must determine for each certification and recertification examination whether or not the driver is medically:
  - Qualified for commercial driving and will be certified and issued a medical examiner's certificate.
  - Unqualified for commercial driving and will not be certified.

### Certification Outcome and Period

- Discuss the fundamental issue when deciding the certification period is the probability of an event occurring within a certain period of time.
- Recall that for Interstate CMV driver medical certification:
  - The maximum certification period is 2 years.
  - The medical examiner can certify for less than 2 years, when:
    - More frequent monitoring is indicated by history and/or physical examination.
    - Medical guidance recommends a period less than 2 years.
    - Provision of Federal exemption requires annual medical examination.
    - Needed to ensure adequate monitoring of a medical condition that may change and be potentially disqualifying.
- Discuss medical examiner authority to indicate the driver is medically qualified "only when" in compliance with one or more of the six requirements printed on the medical examiner's certificate:
  - Wearing corrective lenses.
  - Wearing hearing aid.
  - Accompanied by a \_\_\_ waiver/exemption. (Federal vision or diabetes exemptions).
  - Driving within an exempt intracity zone (49 CFR 391.62).
  - Accompanied by a Skill Performance Evaluation (SPE) certificate.
  - Qualified by operation of 49 CFR 391.64.



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Topic 8: FMCSA reporting and documentation requirements.

## **Reporting and Documentation**

### **Documenting Certification Status**

- Compare the Medical Examination Report form certification status and medical examiner's certification to identify the minimum requirements for documenting the certification decision.
  - Note that both status and medical examiner's certificate have the list of six certification modifications the medical examiner may impose.
  - Show the relationship between the date of examination, the status certification period, and the medical examiner's certificate expiration date.
- Discuss the importance of the Medical Examination Report form status and the medical examiner's certificate being accurately completed and reflecting the same certification decision.
- Recall that there is no issuance of the medical examiner's certificate to the driver who is not medically qualified.
- Review 49 CFR 391.43 (g)(h) requirements for completion and distribution of the medical examiner's certificate.

### **Reporting**

- Discuss minimum requirements for retention of driver medical records.
- Discuss national registry listing requirement for certified medical examiners to report monthly interstate commercial motor vehicle (CMV) driver physical examinations including months when no examinations were performed.
- Discuss requirements to produce records when requested by FMCSA or designated representative as part of investigation of CMV crashes.

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## Self-checks

Self-checks are a stem and key example resource for developing knowledge mastery learning strategies, such as discussion, drill and practice, and pre- and post-topic comprehension assessment interactions. Use of self-check content is optional.

## Stems and Keys

### About FMCSA Recall

#### Stem

What is the purpose of the Interstate CMV driver physical examination?

#### Key

The purpose of the driver physical examination is to detect the presence of physical, mental, or organic conditions of such character and extent as to affect the driver ability to operate a CMV safely. This examination is for public safety determination and is considered by the Federal Motor Carrier Safety Administration (FMCSA) to be a "medical fitness for duty" examination.

#### Stem

What is the mission of the FMCSA?

#### Key

"The Federal Motor Carrier Safety Administration (FMCSA) is focused on reducing crashes, injuries, and fatalities involving large trucks and buses."

#### Stem

Who and what does FMCSA regulate?

#### Key

The FMCSA regulates interstate commercial operation, including the driver, vehicle, motor carrier, and the transport of hazardous materials.

### Job of Commercial Driving Recall

#### Stem

Give examples of CMV driver stress factors.

#### Key

Stress factors may include:

- Interruption of normal sleep, exercise, and eating patterns and access to social support networks resulting in fatigue, obesity, and/or alienation of affection.
- Environment that may have excessive vibration, noise, and extremes in temperature, and/or adverse road or traffic conditions can interfere with driver ability to recognize a driving hazard, cause temporary or permanent physical damage to sensory perception or affect driver behavior.
- Increased potential for injury and fatalities should there be a crash when driver is responsible for passenger safety or hazardous cargo.

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## Regulation and Medical Guidance Recall

### Stem

What are the differences between the medical standards and the medical guidelines?

### Key

The regulations are law. The medical examiner must use the standards found in 49 CFR 391. 41 to determine interstate CMV driver medical fitness for duty. Medical guidelines are based on expert review and considered best practices and are intended to assist the medical examiner in determining driver certification.

### Stem

In which regulation(s) are the driver physical qualification standards and medical examiners responsibilities cited?

### Key

Driver physical qualification standards are found in 49 CFR 391.41.

Medical examiner responsibilities are found in 49 CFR 391.43.

## Medical Examination Recall

### Stem

What objective tests and measurements are required as part of the driver physical examination.

### Key

Driver:

- Height and weight.
- Vision.
- Hearing.
- Blood pressure and pulse.
- Urinalysis (dipstick) for specific gravity, protein, blood, and glucose.

## Determining Driver Certification Recall

### Stem

What are the possible outcomes of the driver physical examination?

### Key

Certification

Disqualification

### Stem

What date is used to determine medical examiner's certificate expiration?

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## Key

Date noted on the medical examination report form; the day the physical examination was started.

## Documentation Application

### Stem

What is the medical examiner certificate expiration date for the following drivers?

- Driver A – Examination 4/16/2011 – Meets standards in 49 CFR 391.41; qualifies for 2 year certificate.
- Driver B – Examination 4/16/2011 – Meets standards, but periodic monitoring required due to hypertension – driver qualified for 1 year.
- Driver C – Examination 4/16/2011 – Disqualified due to not having results of post-CABG stress test for review. 4/25/2011 – Return to medical examiner's office with test results (attached) – driver qualified for 1 year.
- Driver D – Examination 4/16/2011 – Disqualified due to diagnosis of benign positional vertigo 3/15/2011 – Return to medical examiner's office for Certification Examination on 5/20/2011. Note asymptomatic since 3/11/2011 but periodic– driver qualified for 2 years.

## Key

- Driver A – Expiration date 4/16/2013 (2 years from date of physical examination).
- Driver B – Expiration date 4/16/2012 (1 year from date of physical examination).
- Driver C – Expiration date 4/16/2012 (1 year from date the physical examination was started, not the follow-up date when driver returned with test results needed to complete physical examination).
- Driver D – Expiration date 5/20/2013 (Time and conditions of waiting periods should be completed before considering the driver for certification. Therefore the medical examiner disqualified the driver, explaining that a 2 month, symptom-free waiting period must elapse. The medical examiner performed a complete physical examination, including starting a new Medical Examination Report form, on 5/20/2011 and determined the driver could be certified for 2 years. The expiration date is 2 years from the date the examination was performed).

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## Scenarios

The objective of the clinical scenario is to reinforce application of the FMCSA regulations and guidance in the clinical setting to effectively perform the driver physical examination. Use of example cases are optional. When used, the scenario can be used as a whole or in part to develop learning strategies such as vignettes, role plays, simulations, and group discussion. Remember that all FMCSA Medical examiner certification test items assess knowledge acquired through training in the context of medical examiner performance of critical tasks.

The format used to present the medical facts for the scenarios is based on the data a medical examiner records on the Medical Examination Report form.

## Medical Examination Report Form — Ms. Karen Anderson

### Ms. Anderson—Recertification Examination

Sex: Female | Age: 42 | Height: 67" | Weight: 172 lbs.

#### Health History:

Yes response(s): None.

Medication(s): None.

#### Health History Comments:

Reports negative health history. Denies any current or recent prescription medication or supplement use other than taking one-a-day multivitamin formulated for women.

#### Vision:

Uncorrected Acuity: Rt. Eye: 20/20 Lt. Eye: 20/30 Both: 20/20

Horizontal Field of Vision: Rt. Eye: 80° Lt. Eye: 80°

Meets standard only when wearing: corrective lenses? No

Color: Can distinguish red, green, and amber colors? Yes

Monocular Vision? No

#### Hearing:

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: 5 Feet Lt. Ear: 5 Feet

Audiometric test hearing loss average: Rt. Ear: N/A Lt. Ear: N/A

#### Blood Pressure/Pulse

BP-134/88 P-80 & Regular

#### Urinalysis

SP. GR.: 1.020 | Protein: 1+ | Blood: 4+ | Glucose: Neg

# FMCSA OVERVIEW

Hemoglobin 12.4

## Physical Examination Comments

Currently on 4th day of menses with heavy bleeding. Driver denies any change in alertness affecting driving ability. Advised her to consult primary care provider or GYN specialist for evaluation of excessive bleeding that might lead to anemia which could cause her to tire easily, increasing her risk for unsafe driving.

## Stems and Keys

### Best Outcome

#### Stem

What is the certification decision in this scenario?

#### Key

Certify Ms. Anderson for 2 years. She has no disqualifying health history or physical examination abnormalities.

### Health History Documentation

#### Stem

Even though Ms. Anderson reported a negative health history, what important information did the medical examiner ask about when reviewing her health history?

#### Key

The medical examiner asked about medication usage, including supplements, which many drivers may not report because they do not consider them medications and are unaware of the medical implications of the use of supplements.

### Required Test Documentation

#### Stem

Which reported test result did the medical examiner obtain based on physical examination findings and not as part of the required testing?

#### Key

Hemoglobin.

### Physical Examination Comments

#### Stem

Do you think the comment is adequately documents the findings? Justify your answer.

#### Key

## FMCSA OVERVIEW

The medical examiner correctly noted the body system in which there was an abnormal finding. The note reflects inquiry as to the affect on driving ability and is also supported by hemoglobin test results. The examiner also documented advice for medical follow up for a condition that could worsen and interfere with safe operation of a CMV.

## VISION

# Training Provider Handbook: Vision –Module Overview

### Goal

FMCSA certified medical examiners will assess driver vision and eye conditions, determine medical fitness for duty, and document examination findings and affect on fitness for duty in accordance with the FMCSA physical qualification standards and policies.

### Competencies

Training should prepare the examiner to appropriately apply knowledge of vision standards and guidance to the performance of these tasks. Also, test items directly assess these tasks.

#### Identification and History

- Identify, query, and note issues in a driver's medical record and/or health history as available, which may include:
  - current over-the-counter (OTC) and prescription medications and supplements, and potential side effects, which may be potentially disqualifying
  - disorders of the eyes (e.g., retinopathy, cataracts, aphakia, glaucoma, macular degeneration, monocular vision)
  -

#### Physical Examination and Evaluation

- Examine the driver's eyes and note
  - distant acuity in each and both eyes (Snellen comparable values)
  - whether corrective lenses are required to meet the standard
  - horizontal field of vision in each eye
  - color recognition ( IB3d)
  - presence or absence of monocular vision ( IB3e)
  - reactivity to light and pupillary equality ( IB3f) evidence of nystagmus and exophthalmos
  - evaluation of extraocular movements ( IB3h)
  - fundoscopic examination results ( IB3i)

#### Diagnostic Tests and / or Referrals

- Refer a driver who exhibits evidence of any of the following disorders for follow-up care and evaluation by an appropriate specialist or primary care provider
  - vision (e.g., retinopathy, macular degeneration)

#### Documentation of Ancillary Information

- Include an annual ophthalmologist's or optometrist's report for a driver who was qualified under a vision exemption
- Include information for a driver who is qualified under a diabetes exemption, which includes an endocrinologist's and ophthalmologist's / optometrist's report as required

#### Health Education Counseling

- Advise a driver with contact lenses he or she should carry a pair of glasses while driving (Inform the driver of the rationale for delaying or potentially disqualifying certification, which may include
  - vision disability (e.g., retinopathy, macular degeneration)

#### Risk Assessment

- Consider a driver's cognitive ability to
  - inspect the operating condition of a tractor and/or trailer



## VISION

- monitor and adjust to a complex driving situation maneuver through crowded areas
- quickly alter the course of vehicle to avoid trouble

### **Certification Outcomes and Intervals**

- Indicate certification status, which may require waiver / exemption, which the medical examiner identifies wearing corrective lenses

### **FMCSA Content Sources**

At the completion of training, the medical examiner should be able to use the following FMCSA regulations and guidance resources to correctly perform driver vision assessment:

- 49 CFR 391.41(b)(10) Physical qualifications for drivers (Vision standard)
- 49 CFR 391.43(a)(b) Medical examination; certificate of physical qualification. (Allows licensed optometrist to perform and certify vision testing)
- 49 CFR 391.43 **Head-eyes** Medical examination; certificate of physical qualification (Vision examination)
- 49 CFR 391.64(b) Grandfathering for certain drivers participating in vision and diabetes waiver study programs Medical Examination Report form and Advisory Criteria for vision
- Medical examiner's certificate
- FMCSA Web site: Driver Exemption Programs (Vision Package)
- FMCSA Medical Examiner Handbook, Vision (b)(10)

# VISION

Topic 1: Background, rationale, mission, and goals of the FMCSA medical examiner's role in reducing crashes, injuries, and fatalities involving commercial motor vehicles.

## Global Objectives

### Regulation and Guidance

- Recall regulations or standards are laws and must be followed.
- Recall medical examiners are responsible for determining if the commercial motor vehicle (CMV) driver is medically qualified and is safe to drive under the Federal Motor Carrier Safety Regulations (FMCSRs).
- Recognize that guidelines are intended as best practices for medical examiners.
- Give an example of documenting the reason(s) for a certification decision that does not conform with guidelines. Recall that an exemption is a temporary regulatory relief from a regulation.

## Vision Standards Objectives

### Driver Physical Qualification Requirements

- Recall that vision qualification requirements are cited in 49 CFR 391.41 (b)(10).
- Explain why the vision parameters specified in the regulation must be used to determine if the driver certification status. List the vision screening tests cited in 49 CFR 391.41 (b)(10):
  - Distant visual acuity.
  - Horizontal field of vision.
  - Color recognition (Does not have to be true color).
- Recall that the driver may use corrective lenses to meet distant visual acuity requirement (e.g., eye glasses, contact lenses).
- Review the passing parameters for vision tests:
  - Distant visual acuity of at least 20/40 (Snellen) in each eye without corrective lenses or visual acuity separately corrected to 20/40 (Snellen) or better with corrective lenses.
  - Distant binocular acuity of at least 20/40 (Snellen) in both eyes with or without corrective lenses. Field of vision of at least 70° in the horizontal meridian in each eye.
  - The ability to recognize the colors of traffic signals and devices showing standard red, green, and amber.
- Recall that 49 CFR 391.43 Head-eyes cites the condition of monocular vision as disqualifying for operating a CMV.

### Qualified by Operation of 49 CFR 391.64

- Recall that this regulation grandfathered a small number of drivers who participated in a research study in the mid-1990s to operate a CMV as long as they are otherwise medically fit and in compliance with the requirements of the regulation .
- Recognize that this small population of drivers are governed by 49 CFR 391.64(b) and must provide the letter from FMCSA as proof of their grandfathered status before you issue a medical examiner's certificate to the driver.

**NOTE:** This FMCSA waiver study program concerning commercial motor vehicle (CMV) operation by drivers with monocular vision was the predecessor of the Federal Vision Exemption Program. Participants in good standing on March 31, 1996 were provided a letter from FMCSA that grandfathered them an exemption from standard 49 CFR 391.41(b)(10) by operation of 49 CFR 391.64(b) as long as the driver is in compliance with the requirements. These drivers are governed by 49 CFR 391.64(b) and must provide the letter from FMCSA as proof of their grandfathered status before you issue a medical examiner's certificate to the driver. The grandfathering provision is no longer available. This is a very small segment of the CMV driver population and that is smaller each passing year as grandfathered participants retire from commercial driving.

### Federal Vision Exemption Program

- Recall that the Federal Vision Exemption Program allows some drivers with monocular vision to operate a commercial

## VISION

motor vehicle.

**NOTE:** An exemption is a temporary regulatory relief from one of more of the FMCSRs (e.g., 49 CFR 391.41 (b)(10) vision that meets requirements with each eye individually and both eyes together). An exemption provides the driver with relief from the requirement for up to 2 years, but may be renewed. The medical examiner cannot grant waivers or exemptions. Only the FMCSA grants an exemption for the driver with monocular vision. Medical examiners determine if the individual is otherwise medically fit for duty.

### **Instructions to Medical Examiner**

- Inform participants that current contact information for the Federal Vision Exemption Program is available in the online Medical Examiner Handbook [Resources](#) page.
  - Driver Exemption Programs (Diabetes, Vision)
  - E-mail: [medicalexemptions@dot.gov](mailto:medicalexemptions@dot.gov)
  - Phone: 703-448-3094

# VISION

Topic 2: Familiarization with the responsibilities and work environment of commercial motor vehicle (CMV) operation.

## Global Objectives

### Job of Commercial Driving

- Describe the safety implications of the job of commercial driving for driver and public.
- Give an example of how work environment impacts the ability of the driver to operate a commercial vehicle safely.
- Give an example of communication ability required to perform the job of commercial driving.

## Vision Standards Objectives

### Vision Safety Implications

**NOTE:** It is an intuitive concept that vision plays an essential role in the driving task and the safe operation of commercial motor vehicles. Training should emphasize that there are increased demands on visual perception when operating a commercial vehicle.

- Discuss the concept that “driving safety is maintained through a constant stream of small decisions and less frequent larger decisions that require a high rate of accurate visual information about the driving environment.”
- Discuss how the following factors place greater demands on vision tasks for CMV drivers. Decreased maneuverability of a large-sized vehicle.
  - Increased size of blind spots.
  - Longer acceleration and stopping distances.
  - Dependence on mirrors.
- Recall that there is a greater potential for damage, injury, and fatality in crashes involving at least one commercial vehicle.
- -

# VISION

Topic 3: Obtaining, reviewing, and documenting driver medical history, including prescription and over-the-counter (OTC) medications.

## **Global Objectives**

### **Health History**

- Recall that history is completed by the driver.
- Identify the health history questions that are specific to eye disorders and vision. Give an example of a vision or eye disorder historical finding.
- Explain how the example finding affects the physical examination and/or certification outcome.
- Discuss how the demands of commercial driving affect medical examiner review of driver use of ophthalmic preparations.

# VISION

Topic 4: Performing, reviewing, and documenting the driver's medical examination.

## Global Objectives

### Physical Examination

- Recall that the Medical Examination Report form body system “check for” lists the minimum eye examination requirements.
- Describe the correct way to comment on abnormal findings according to the instructions in section 7: Physical Examination of the Medical Examination Report form.
- Recall that the affect of an abnormality on the ability of the driver to operate a commercial motor vehicle safely should be noted.
- Recall that abnormal findings should be discussed with the driver and the discussion documented.

## Vision Standards Objectives

### Distant Visual Acuity Test

- Recall the passing parameters for visual acuity testing.
- Recall that visual acuity test results must be converted to Snellen values if another test is used. Recall that distant visual acuity must be measured in each eye individually and both eyes.
- Recall that corrective lenses, eye glasses and/or contact lenses may be used when testing for distant acuity. Identify when a driver must use corrective lenses to meet distant acuity vision requirements.
- Discuss why contact lenses that correct vision in one eye for distant acuity and vision in the other eye for near acuity are not acceptable corrective lenses for meeting commercial driving qualification requirements.

### Horizontal Field of Vision Test

- Recall the passing parameters for horizontal field of vision testing.
- Discuss methods medical examiners may use in the clinical setting to measure field of vision, including reasonable reliability and accuracy tests.
- Discuss why telescopic lenses that redirect peripheral vision to compensate for loss of central vision are not acceptable corrective lenses for meeting commercial driving qualification requirements.

**NOTE:** Specialized ophthalmological equipment for precise measurement to determine if vision meets the minimum 70° requirement.

### Color Vision Test

- Recall the passing parameters for color vision testing.
- Discuss why true color recognition is not required for safe driving as long as the driver can perceive a difference between standard red, amber, and green traffic signals.

### Monocular Vision

- Recall that the driver must pass all vision requirements to be found medically fit for duty.
- Recall that the driver who has monocular vision, that is with the better eye meets all vision qualification requirements, may be considered for a Federal Vision Exemption if examination finds the driver otherwise medically fit for duty.

### Vision Standard

## VISION

- Recall that the driver must pass all vision requirements to be found medically fit for duty.
- Recall that the driver who has monocular vision, that is with the better eye meets all vision qualification requirements, may be considered for a Federal Vision Exemption if the medical examiner finds the driver is otherwise medically fit for duty.

# VISION

Topic 5: Performing, obtaining, and documenting additional diagnostic tests or medical opinion from a medical specialist or treating physician.

## Global Objectives

### Ancillary Tests and Evaluation

- Recall that additional tests and/or evaluation should be obtained when examination findings are inconclusive for determining medical fitness for duty.
- Recall that additional test results and evaluation used to assess medical fitness for duty must be included with the Medical Examination Report form documentation.
- Differentiate between the role of the medical examiner to determine medical fitness for duty and the role of the primary care provider to diagnose and treat the condition.
- Review Medical Examination Report form list of eye conditions that examiner should "ask about."

**NOTE:** Medical examiners are to "ask about" eye conditions because most examiners will not have the specialized diagnostic devices used to examine eyes that are found in ophthalmological specialty settings.

## Vision Guidance Objectives

### Additional Evaluation Considerations

- Discuss the correlation between aging and vision conditions that interfere with the ability of the driver to safely operate a commercial motor vehicle.
- Identify healthcare professionals with whom the medical examiner may consult and identify when that specialist must be an ophthalmologist.
- Give examples of history and/or findings that may indicate the medical examiner should obtain additional testing and/or evaluation of the driver with a known condition, symptom, or risk.

### Eye Conditions

- Discuss medical guidelines for eye trauma, cataracts, glaucoma, macular degeneration, including diabetic retinopathy.

### Federal Vision Exemption Program

- Review the program requirements for specialist evaluation including specialist credential and frequency.
- Recall that at recertification medical examinations the driver should provide copies of specialist's report to the medical examiner.



# VISION

Topic 6: Informing and educating the driver about medications and nondisqualifying medical conditions that require remedial care.

## **Global Objectives**

### **Discussion and Education**

- Recall that the medical examiner has a responsibility to inform and educate the driver about use, effects, and/or side effects of medication that can interfere with safe driving.
- Discuss the importance of encouraging the driver with nondisqualifying medical conditions to seek appropriate remedial care that may prevent or delay future condition-related disqualification.

## **Vision Standards Objectives**

### **Use of Corrective Lenses**

- Explain when the driver must use corrective lenses to meet vision qualification requirements that the medical examiner must require the driver to wear corrective lenses while operating a commercial vehicle.
- Advise the driver who wears corrective lenses to carry a spare set of glasses.

### **Ophthalmic Preparations**

- Discuss possible side effects of topical ophthalmic preparations, such as temporary blurring of vision.
- Discuss the potential for visual disturbance side effects of medications prescribed or purchased for other conditions.
- Discuss the risk for disqualifying eye conditions because of age or presence of a disease condition regarding the importance of regular eye examination.
- Give examples of medical examiner discussion and advice that demonstrates the importance of relating information to driving ability and driver certification.

# VISION

Topic 7: Determining driver certification outcome and period for which certification should be valid.

## **Global Objectives**

### **Certification Outcome**

- Recall that medical examiner must determine certification status in accordance with FMCSA Physical qualification standards.
- Recall that only driver medical examiner certificate modifications that can be required are printed on the Medical Examination Report form status and the medical examiner's certificate.
- Discuss how medical guidance is used to help determine driver certification status. Recall that maximum certification period cannot exceed 2 years.

## **Vision Standard Objectives**

### **Certification of the Driver**

- Recall that vision testing may be performed and certified by an optometrist or ophthalmologist, but it is the medical examiner who determines driver certification outcome.
- Recall that the driver with corrected vision may be certified for up to 2 years. Identify cases when more frequent monitoring would be appropriate.
- Recall that medical examiner may require the driver to wear corrective lenses while operating a commercial motor vehicle.

### **Federal Vision Exemption**

- Recall that the driver with monocular vision who is applying for or has a Federal exemption or is qualified by operation of 49 CFR 391.64 must have annual physical examination.

### **When Not to Certify**

- Recall that the driver who does not meet all vision requirements with both eyes is not medically fit for duty. Recommend not to certify the driver with an eye condition or treatment that interferes with safe driving.
- Recall that the medical examiner must not medically recertify the driver with a Federal vision exemption if certification of the driver is contrary to the public interest and presents an unacceptable risk to safety.

# VISION

Topic 8: FMCSA reporting and documentation requirements.

## Global Objectives

### Documentation

- Demonstrate correct documentation of driver certification status on the Medical Examination Report form. Demonstrate correct completion of medical examiner's certificate.
- Recall that the requirement to wear corrective lenses is one of the options printed on the Medical Examination Report form and medical examiner's certificate.
- Recall that the examiner must require a Federal Vision exemption accompany medical certification of a driver who has monocular vision on the:
  - Medical Examination Report form status. Medical examiner's certificate.
  - Exception is the driver who is already governed by the provision of 49 CFR 391.64 which is documented by letter granting "grandfathered" status.

**NOTE:** Explain the requirement for the driver with monocular vision to submit both the Medical Examination Report form and the medical examiner's certificate with the exemption application.

## Vision Standards Objectives

### Vision Tests

- Give examples of correctly recording vision test results.
- Review the required specialist information that should be noted on or attached to the Medical Examination Report form.
- Recall that any additional vision test and specialist evaluation reports should be attached to the Medical Examination Report form.

### Federal Vision Exemption

- Discuss documentation that the driver with a federal exemption or who is governed by operation of 49 CFR 391.64 must provide the medical examiner before issuance of the medical examiner's certificate.
- Review examples of correctly recording status and completing medical examiner's certificate for the driver: With or who requires a Federal vision exemption.
  - Who is governed by Operation of 49 CFR 391.64.

# VISION

## Self-checks

Self-checks are a stem and key example resource for developing knowledge mastery learning strategies, such as discussion, drill and practice, and pre- and post-topic comprehension assessment interactions. Use of self-check content is optional.

## Stems and Keys

### Vision Standard Recall

#### Stem

Who can perform the vision portion of the interstate commercial motor vehicle (CMV) driver physical examination?

#### Key

The FMCSA certified medical examiner, a licensed optometrist, or an ophthalmologist may perform the vision portion of the CMV driver physical examination. When a specialist provider performs the vision exam, in addition to recording the results, the provider should complete and sign the provider's information as indicated at the bottom of Section 3: Vision of the Medical Examination Report form.

#### Stem

To pass the interstate CMV driver vision exam, a visual acuity of \_\_\_\_\_ corrected or uncorrected is required.

#### Key

20/40 Snellen. The driver must meet the distant acuity requirement in each eye individually and in both eyes combined.

#### Stem

What eye conditions must the medical examiner ask the driver about and if indicated request specialist evaluation?

#### Key

Retinopathy, cataracts, aphakia, glaucoma, and macular degeneration.

# VISION

## Scenarios

The objective of the clinical scenario is to reinforce application of the FMCSA regulations and guidance in the clinical setting to effectively perform the driver physical examination. Use of example cases are optional. When used, the scenario can be used as a whole or in part to develop learning strategies such as vignettes, role plays, simulations, and group discussion. Remember that all FMCSA Medical examiner certification test items assess knowledge acquired through training in the context of medical examiner performance of critical tasks.

The format used to present the medical facts for the scenarios is based on the data a medical examiner records on the Medical Examination Report form.

## Medical Examination Report Form—Mr. Steve Brown

### Mr. Brown—Recertification Examination

Sex: Male | Age: 48 | Height: 72" | Weight: 180 lbs.

### Health History

Yes response(s): Injury in the last 5 years

Medication(s): None

### Health History Comments

Reports hunting accident 2 years ago resulting in facial trauma with a left orbital fracture. Presented "May drive" note from eye surgeon (dated 3 months prior to physical examination).

### Vision

Uncorrected Acuity: Rt. Eye: 20/20 Lt. Eye: 20/40 Both: 20/20

Horizontal Field of Vision: Rt. Eye: 80° Lt. Eye: Inconclusive

Meets standard only when wearing: corrective lenses? No

Color: Can distinguish red, green, and amber colors? Yes

Monocular Vision? No

### Hearing

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: 5 Feet Lt. Ear: 5 Feet

Audiometric test hearing loss average: Rt. Ear: N/A Lt. Ear: N/A

### Blood Pressure/Pulse

BP-122/74 P-80 & Regular

### Urinalysis

SP. GR: 1.020 | Protein: Neg | Blood: Neg | Glucose: Neg

### Physical Examination Comments

## VISION

2. Left eye muscles do not move the eye to the left. Discussed disqualification pending eye examination by specialist. Explained that the specialist will be able to obtain precise visual field measurements. Provided driver with appropriate medical release and copy of Medical Examination Report form with vision section highlighted.

The rest of the physical examination was unremarkable.

### Stems and Keys

#### Best Outcome

##### Stem

What is the certification decision in this scenario?

##### Key

Does not meet standards. Disqualified pending specialist vision examination to determine if left eye horizontal field of vision meets qualification requirements.

#### Vision Safety Consideration

##### Stem

In addition to inconclusive field of vision testing, what other vision concerns support the medical examiner's decision to have the driver examined by a specialist?

##### Key

Does the driver have diplopia or cortical suppression? Has depth perception been compromised? Is the driver functionally monocular?

# Training Provider Handbook: Hearing—Module Overview

## Goal

FMCSA certified medical examiners will assess driver hearing loss and ear conditions, determine medical fitness for duty, and document examination findings and effect on fitness for duty, in accordance with FMCSA physical qualification standards and policies.

## Competencies

Training should prepare the examiner to appropriately apply knowledge of hearing standards and guidance to the performance of these tasks. Also, Medical Examiner Certification Test items directly assess these tasks.

### Identification and History

- Identify, query, and note issues in a driver medical record and/or health history, as available, which may include:
  - current over-the-counter (OTC) and prescription medications and supplements, and potential side effects, which may be potentially disqualifying
  - disorders of the ears (e.g., hearing loss, vertigo, Meniere's disease, tinnitus, implants)

### Physical Examination and Evaluation

- Examine the driver's ears and note:
  - abnormalities of the ear canal and tympanic membrane whisper test and/or audiometric results (in ANSI standard units), as indicated (IB4b)
  - presence or absence of a hearing aid and whether required to meet the standard

### Diagnostic Tests and/or Referrals

- Obtain additional information when indicated by audiometrics

### Documentation of Ancillary Information

- Record/include results, as available, with other information about the driver, which may include audiometrics

### Health Education Counseling

- Advise a driver with a hearing aid that he/she should possess a spare power source for the device while driving

### Certification Outcomes and Intervals

- Indicate certification status, which may require wearing a hearing aid

## FMCSA Content Sources

At the completion of training, the medical examiner should be able to use the following FMCSA regulations and guidance resources to correctly perform driver hearing assessment:

- 49 CFR 391.41(b)(11) Physical qualifications for drivers (Hearing standard)
- 49 CFR 391.43 Ears Medical examination; certificate of physical qualification (Hearing examination)
- Medical Examination Report form and Advisory Criteria for hearing
- Medical examiner's certificate
- FMCSA Medical Examiner Handbook, Hearing (b)(11)

# HEARING

Topic 1: Background, rationale, mission, and goals of the FMCSA medical examiner role in reducing crashes, injuries, and fatalities involving commercial motor vehicles (CMV).

## Global Objectives

### Regulation and Guidance

- Recall that regulations or standards are laws and must be followed.
- Recall that medical examiners are responsible for determining if the CMV driver is medically qualified and is safe to drive under the Federal Motor Carrier Safety Regulations (FMCSRs).
- Recognize that guidelines are intended as best practices for medical examiners.
- Give an example of documenting the reasons for a certification decision that does not conform with guidelines.

## Hearing Standards Objectives

### Driver Physical Qualification Requirements

- Recall that hearing qualification requirements are cited in 49 CFR 391.41 (b)(11).
- Explain why the hearing parameters specified in the regulation must be used to determine driver certification status.
- Identify the two types of hearing tests included in the regulation as the forced, whispered voice and testing by use of an audiometric device.
- Recall that the driver may use a hearing aid to meet the hearing requirement.
- Recall the passing parameters for both hearing tests:
  - Driver first perceives a forced, whispered voice in the better ear at not less than 5 feet with or without the use of a hearing aid.
  - Driver, if tested by use of an audiometric device, does not have an average hearing loss in the better ear greater than 40 decibels at 500 Hz, 1,000 Hz, and 2,000 Hz, with or without a hearing aid.
- The driver meets the hearing qualification requirements if hearing passes one test in one ear.

#### NOTES:

- The driver who must use a hearing aid to qualify must also use a hearing aid while operating a CMV.
- There is no Federal exemption program for loss of hearing that does not meet qualification requirements.

### Medical Examiner Responsibilities

- Recall that hearing examination requirements are cited in 49 CFR 391.43 (f) Ears.
- Identify ear diseases and symptoms that can interfere with safe operation of a CMV.
- Describe how to correctly administer the forced whisper test.
- Demonstrate correctly calculating audiometric test results to determine average hearing loss.
- Explain why the driver who fails one hearing test in both ears must be given the other hearing test.

#### NOTES: Application of medical skills to interstate driver physical examination:

- Medical examiner should be able to recall that hearing loss may accompany other medical problems and may actually be a symptom of these problems, rather than a discrete disorder.
- It is the medical examiner's responsibility to determine driver medical fitness for duty at the time of examination. There is no Federal exemption program for loss of hearing that does not meet qualification requirements.
- The medical examiner should encourage the driver to seek appropriate medical evaluation, particularly when treatment may prevent or reverse a potentially disqualifying medical condition.

## Instructions to Medical Examiner



## HEARING

- Recall that instructions for performing the whispered voice test are included in the Medical Examination Report form Advisory Criteria for hearing.
- Recall that instructions for calculating average hearing loss using audiometric testing results are found in the Medical Examination Report form, Hearing section, and 49 CFR 391.43 (f) Ears.

### **Hearing Recommendations**

#### **Otic Disease and Conditions Guidelines**

- Recall that guidance recommends a 2-month, symptom-free waiting period for diagnoses of:
  - Acute and chronic peripheral vestibulopathy.
  - Benign positional vertigo.
- Recall that guidance recommends not to certify with diagnoses of:
  - Uncontrolled vertigo.
  - Meniere's Disease.
  - Labyrinthine Fistula.
  - Nonfunctioning Fistula.

## HEARING

Topic 2: Familiarization with the responsibilities and work environment of commercial motor vehicle (CMV) operation.

### **Global Objectives**

#### **Job of CMV Driving**

- Describe the safety implications of the job of CMV driving for the driver and the public.
- Give an example of how work environment impacts the ability of the driver to operate a CMV safely.
- Give an example of communication ability required to perform the job of CMV driving.

### **Hearing Standards Objectives**

#### **Hearing and Ear Function Safety Implications**

- Describe how hearing warning sounds, both traffic and vehicle, contribute to safety.
- Give an example of why the ability to maintain balance is a critical safety concern for CMV drivers.

#### **Work Environment Affects Hearing Ability**

- Describe the risks associated with long-term exposure to loud vehicle sounds.

**NOTE:** Temporary traffic environment hearing loss, caused by vehicles that are insulated too well to protect driver hearing, are sometimes used as one argument to support less-strict hearing requirements. Unless there is a regulatory change, the medical examiner must continue to use the physical standard cited.

#### **Hearing and Driver Communication**

- Give examples of CMV driver communication tasks that depend on adequate hearing ability, such as communication with passengers and dispatchers, and loading and unloading personnel.

## HEARING

Topic 3: Obtaining, reviewing, and documenting driver medical history, including prescription and over-the-counter (OTC) medications.

### **Global Objectives**

#### **Health History**

- Recall that history is completed by the driver.
- Identify the health history questions that are specific to hearing and ear function.
- Give an example of a hearing or ear disorder historical finding.
- Explain how the example finding affects the physical examination and/or certification outcome.

# HEARING

Topic 4: Performing, reviewing, and documenting the driver's medical examination.

## Global Objectives

### Physical Examination

- Recall that the Medical Examination Report form Body System “Check For” list has the minimum ear examination requirements.
- Describe the correct way to comment on abnormal findings, according to the instructions in Section 7, Physical Examination, of the Medical Examination Report form.
- Recall that the effect of an abnormality on the ability of the driver to operate a CMV vehicle safely should be noted.
- Recall that abnormal findings should be discussed with the driver and the discussion documented.

## Hearing Standards Objectives

### Forced Whispered Voice Test

- Recall that correct test administration procedure is described in 49 CFR 391.41 and the Medical Examination Report form, Advisory Criteria.
- Explain the importance of having a quiet, accurately marked test area.
- Show how to correctly document whisper test results in the Medical Examination Report form, Hearing section.

### Audiometric Test

- Recall that correct documentation of test results is noted in the Medical Examination Report form, Hearing section.
- Calculate average hearing loss correctly.
- Explain when American National Standards Institute (ANSI) standard conversion is required.

**NOTE:** When a hearing aid is to be worn during audiometric testing, an audiologist or hearing aid center should perform the test using appropriate audiometric equipment.

### Hearing Requirement

- Recall that individual hearing tests should be administered in both ears.
- Recall that the hearing requirement is met when the better ear passes the test.
- Explain why only one hearing test is required to determine that a driver meets the hearing qualification requirement, but both hearing tests must be administered before determining that driver hearing does not meet the requirement.

## HEARING

Topic 5: Performing, obtaining, and documenting additional diagnostic tests or medical opinion from a medical specialist or treating physician.

### **Global Objectives**

#### **Ancillary Tests and Evaluation**

- Recall that additional tests and/or evaluation should be obtained when examination findings are inconclusive for determining medical fitness for duty.
- Recall that additional test results and evaluation used to assess medical fitness for duty must be included with the Medical Examination Report form documentation.
- Differentiate between the role of the medical examiner to determine medical fitness for duty and the role of the primary care provider to diagnose and treat the condition.

**NOTE:** Signs of symptoms of diseases, for which guidance recommends a symptom-free waiting period or a decision not to certify, can be used to provide examples of abnormal findings that would result in the medical examiner obtaining additional testing and evaluation.

# HEARING

Topic 6: Informing and educating the driver about medications and non-disqualifying medical conditions that require remedial care.

## Global Objectives

### Disussion and Education

- Recall that the medical examiner has a responsibility to inform and educate the driver about use, effects, and/or side effects of medications that can interfere with safe driving.
- Discuss the importance of encouraging the driver with non-disqualifying medical conditions to seek appropriate remedial care that may prevent or delay future condition-related disqualification.
- Explain to a driver who has a significant, but not disqualifying, loss of hearing that specialist evaluation may be beneficial in preserving hearing that continues to meet qualification requirements, perhaps with the use of a hearing aid.
- Encourage a driver to read medication warning labels to see if potential side effects exists that could interfere with driving ability.

## Hearing Standards Objectives

### Use of Hearing Aid

- Explain when the driver must use a hearing aid while operating a commercial motor vehicle.
- Discuss the advantages of the driver carrying a spare power source for the hearing aid.

**NOTES:** Advisory Criteria for hearing recommends that:

- An individual who meets the hearing requirement by using a hearing aid must wear that hearing aid and have it in operation at all times while driving.
- The driver may not have easy access to replacement power sources while traveling; carrying a spare power source helps the driver remain in compliance with the requirement to wear an operating hearing aid while driving.

## HEARING

Topic 7: Determining driver certification outcome and period for which certification should be valid.

### **Global Objectives**

#### **Certification Outcome**

- Recall that medical examiner must determine certification status in accordance with FMCSA Physical qualification standards.
- Recall that the only driver medical examiner's certificate modifications that can be required are printed on the Medical Examination Report form, status section, and the medical examiner's certificate.
- Discuss how medical guidance is used to help determine driver certification status.
- Recall that maximum certification period cannot exceed 2 years.
- Give examples of why more frequent physical examinations may be required to adequately monitor driver medical fitness for duty.

# HEARING

Topic 8: FMCSA reporting and documentation requirements.

## **Global Objectives**

### **Documentation**

- Demonstrate correct documentation of the driver certification status on the Medical Examination Report form.
- Demonstrate correct completion of the medical examiner's certificate.

## **Hearing Standards Objectives**

### **Documenting Hearing Tests**

- Give examples of correctly recording hearing test results.
- Demonstrate correct documentation of driver requirement to wear hearing aid on both the Medical Examination Report form, status section, and the medical examiner's certificate.

**NOTE:** Show how the requirement to wear a hearing aid can be combined with any other requirements when issuing the medical examiner's certificate.



# HEARING

## Self-checks

Self-checks are a stem-and-key example resource for developing knowledge mastery learning strategies, such as discussion, drill-and-practice, and pre- and post-topic comprehension assessment interactions. Use of self-check content is optional.

## Stems and Keys

### Health History Recall

#### Stem

Give examples of “Yes” answers for hearing and ears on the health history that may require further examination before a medical examiner can make a CMV driver certification decision.

#### Key

“Yes” answers to:

- Ear disorders.
- Loss of hearing.
- Loss of balance.

### Whisper Test Results Recall

#### Stem

Does this driver meet hearing standards for interstate CMV driver certification?

Whisper test results | Rt. Ear: 4 Feet | Lt. Ear: 4 Feet |

#### Key

No, the minimum whisper test passing distance is equal to or greater than 5 feet in the better ear. The driver must be given an audiometric hearing test.

### Audiometric Test Results Application

#### Stem

Does this driver meet hearing standards for interstate CMV driver certification?

Audiometric test results [Hearing loss in decibels (dB) 500 Hz, 1,000 Hz, 2,000 Hz] | Rt. Ear: 30, 45, 40  
| Lt. Ear: 45, 45, 35 |

#### Key

Yes, the average hearing loss in the right ear is less than 40 dB.

Audiometric test calculations

Rt. Ear  $(30 + 45 + 40) / 3 = 38.33 \text{ dB}$  —  $38.33 \text{ dB} < 40 \text{ dB} = \text{Pass}$

Lt. Ear  $(45 + 45 + 35) / 3 = 41.67 \text{ dB}$  —  $41.67 \text{ dB} > 40 \text{ dB} = \text{Fail}$

## HEARING

## HEARING

### Scenarios

The objective of the clinical scenario is to reinforce application of FMCSA regulations and guidance, in the clinical setting, to effectively perform the driver physical examination. Use of example cases are optional. When used, the scenario can be used as a whole or in part to develop such learning strategies as vignettes, role plays, simulations, and group discussion. Remember that all FMCSA Medical Examiner Certification Test items assess knowledge acquired through training in the context of medical examiner performance of critical tasks.

The format used to present the medical facts for the scenarios is based on the data a medical examiner records on the Medical Examination Report form.

### Medical Examination Report Form—Mr. Reggie Chin

#### Mr. Chin—Recertification Examination

Sex: Male | Age: 54 | Height: 74" | Weight: 240 lbs.

#### Health History

Yes response(s): Loss of hearing.

Medication(s): None

#### Health History Comments

Chuck is a CMV driver who presents for recertification. He has a history of frequent ear infections in childhood. He had multiple tympanic membrane ruptures and infections in elementary school and into his middle-school years. He has “always” been “hard of hearing” in his left ear.

#### Vision

Uncorrected Acuity: Rt. Eye: 20/30 Lt. Eye: 20/30 Both: 20/30

Horizontal Field of Vision: Rt. Eye: 90° Lt. Eye: 90°

Meets standard only when wearing: Corrective lenses? No

Color: Can distinguish red, green, and amber colors? Yes

Monocular Vision? No

#### Hearing

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: 5 Feet Lt. Ear: 3 Feet

Audiometric test hearing loss average: Rt. Ear: N/A, Lt. Ear: N/A

#### Blood Pressure/Pulse

BP-134/80, P-86 & Regular

#### Urinalysis

## HEARING

SP. GR.: 1.020 | Protein: Neg: | Blood: Neg | Glucose: Neg

### Physical Examination Comments

3. Forced whisper test results – Right ear passed; left ear failed. The left tympanic membrane is scarred and misshapen.

4. Noted post-nasal drainage.

The rest of the physical examination was unremarkable.

### Stems and Keys

#### Best Outcome

##### Stem

What is the certification decision in this scenario?

##### Key

Certify Mr. Chin for 2 years. To meet certification standards, the driver only needs to pass one test in one ear. Mr. Chin passed the forced whisper test with his right ear. There were no other medical findings that would require more frequent monitoring.

#### Whisper Test Results

##### Stem

What would the examiner have done if the whisper test results had been: Rt. Ear: 4 Feet Lt. Ear: 3 Feet? Why?

##### Key

Test Mr. Chin's hearing using audiometry. By regulation, a driver need only pass one test with one ear to meet the hearing standard.

#### Whisper Test Environment

##### Stem

What problems with the test environment exist with the forced whisper tests that do not exist with audiometric tests?

##### Key

There are many variables that can impact the validity of the test, such as estimating instead of measuring the distances, performing the test in a room with poor acoustics or subject to outside noise or other distractions. The medical examiner should attempt to control as many of the variables possible, so the test is given as consistently as possible.

#### Advise Driver

##### Stem

Should the medical examiner advise Mr. Chin to see a specialist because of possible future hearing problems?

##### Key

## HEARING

No, the left ear hearing loss has been stable for years. However, Mr. Chin may be at risk for noise-induced hearing loss. Suggesting an inquiry into precautions to take to reduce risk of better-ear hearing loss may be appropriate.

## CARDIOVASCULAR

# Training Provider Handbook: Cardiovascular—Module Overview

### Goal

FMCSA certified medical examiners will assess driver cardiovascular system, determine medical fitness for duty, and document examination findings and affect on fitness for duty in accordance with the FMCSA physical qualification standards and policies.

Note: Although hypertension is a cardiovascular condition, the training specifications are contained in a separate module because there is a standard and a medical guidance for hypertension.

### Competencies

Training should prepare the examiner to appropriately apply knowledge of cardiovascular standards and guidance to the performance of these tasks. Also, test items directly assess these tasks.

#### Identification and History

- Identify, query, and note issues in a driver's medical record and/or health history as available, which may include:
  - current over-the-counter (OTC) and prescription medications and supplements, and potential side effects, which may be potentially disqualifying ( IA3h)
  - cardiac symptoms (e.g., syncope, dyspnea, chest pain, palpitations) ( IA3m)
  - cardiovascular diseases (e.g., hypertension, congestive heart failure, myocardial infarction, coronary insufficiency, or thrombosis) ( IA3n)

#### Physical Examination and Evaluation

- Examine the driver's heart
  - chest inspection (e.g., surgical scars, pacemaker / implantable cardiac defibrillator (IAD)) ( IB7a) thrills, murmurs, extra sounds, and enlargement ( IB7b)
  - blood pressure and pulse (rate and rhythm) ( IB7c)
  - additional signs of disease (e.g., edema, bruits, diaphoresis, distended neck veins) ( IB7d)

#### Diagnostic Tests and / or Referrals

- Obtain additional information when indicated by:
  - cardiovascular studies (e.g., electrocardiogram, stress test, ejection fraction, vascular studies) ( IC1b)
  - blood analyses (e.g., electrolytes, blood chemistries, toxicology ) ( IC1c)
  - chest radiograph ( IC1d)
  - drug level monitoring (e.g., digoxin, theophylline) ( IC1g)
- Refer a driver who exhibits evidence of any of the following disorders for follow-up care and evaluation by an appropriate specialist or primary care provider ( IC2)
  - cardiac (e.g., myocardial infarction, coronary insufficiency, blood pressure control)

#### Documentation of Ancillary Information

- Record/include results as available with other information about the driver, which may include:
  - cardiovascular studies (e.g., electrocardiogram, stress test, ejection fraction, vascular studies) ( ID1b)
  - blood analyses (e.g., electrolytes, blood chemistries, toxicology ) ( ID1c)
  - chest radiograph ( ID1d)
  - drug level monitoring (e.g., digoxin, theophylline) ( ID1g)
- Integrate a specialist's evaluation with other information about the driver ( ID2)
-

# CARDIOVASCULAR

## Health Education Counseling

- Advise a driver
  - who has had a deep vein thrombosis event of risks associated with inactivity while driving and interventions that could prevent another thrombotic event ( IIA2e)
- Inform the driver of the rationale for delaying or potentially disqualifying certification, which may include ( IIA3)
  - a cardiac event (e.g., myocardial infarction, coronary insufficiency)

## Risk Assessment

- Integrate FMCSA medical advisory criteria and guidelines regarding a driver's condition into the risk assessment ( IIB5)
- Consider for documented conditions the rate of progression, degree of control, and likelihood of gradual or sudden incapacitation (e.g., cardiovascular, neurologic, respiratory, musculoskeletal) ( IIB6)

## Certification Outcomes and Intervals

- Disqualify a driver when evidence shows a condition exists that will likely interfere with the safe operation of a CMV, which may include sufficient supporting opinions and information from specialists ( IIC3)
- Certify a driver for an appropriate interval ( IIC6)
- Advise a driver certified with a limited interval to return for recertification with the appropriate documentation for his or her condition ( IIC8)

## FMCSA Content Sources

At the completion of training, the medical examiner should be able to use the following FMCSA regulations and guidance resources to correctly perform driver cardiovascular assessment:

- 49 CFR 391.41(b)(4) Physical qualifications for drivers
- 49 CFR 391.43 (f) Heart Medical examination; certificate of physical qualification Medical Examination Report form and Advisory Criteria
- Medical examiner's certificate
- Cardiovascular Advisory Panel Guidelines for the Medical Examination of Commercial Motor Vehicle Drivers PDF October 2002
- FMCSA Medical Examiner Handbook, Cardiovascular (b)(4)

# CARDIOVASCULAR

Topic 1: Background, rationale, mission, and goals of the FMCSA medical examiner's role in reducing crashes, injuries, and fatalities involving commercial motor vehicles (CMV).

## Global Objectives

### Regulation and Guidance

- Recall regulations or standards are laws and must be followed.
- Recall medical examiners are responsible for determining if the CMV driver is medically qualified and is safe to drive under the Federal Motor Carrier Safety Regulations (FMCSRs).
- Recognize that guidelines are intended as best practices for medical examiners.
- Give an example of documenting the reason(s) for a certification decision that does not conform with guidelines.

## Cardiovascular Standards Objectives

### Driver Physical Qualification Requirements

- Recall that cardiovascular qualification requirements are cited in 49 CFR 391.41 (b)(4).
- Identify the cardiovascular parameters cited in the regulation that must be used to determine driver certification status, including.
  - Clinical diagnosis of myocardial infarction, angina pectoris, coronary insufficiency, or thrombosis.
  - Any other cardiovascular disease of a variety known to be accompanied by:
    - Syncope.
    - Dyspnea.
    - Collapse.
    - Congestive cardiac failure.

### Medical Examiner Responsibilities

- Recall that heart examination requirements are cited in 49 CFR 391.43 (f) Heart including:
  - Murmurs.
  - Arrhythmias.
  - History of an enlarged heart.
- Recall what test cited in the §391.43(f) Heart and that it is "required when findings so indicate".

### Instructions to Medical Examiner

- Discuss cardiovascular condition advisory instruction points, including:
  - "The subjective decision of whether the nature and severity of an individual's condition will likely cause symptoms of cardiovascular insufficiency is on an individual basis and qualification rests with the medical examiner and the motor carrier."
  - "The emphasis should be on the underlying medical condition(s) which require treatment and the general health of the driver."

**NOTE:** The (202) 366-1790 phone number listed in the Medical Examination Report form is no longer operational.



# CARDIOVASCULAR

Topic 2: Familiarization with the responsibilities and work environment of commercial motor vehicle (CMV) operation.

## **Global Objectives**

### **Job of Commercial Driving**

- Describe the safety implications of the job of commercial driving for driver and public.
- Give an example of how work environment impacts the ability of the driver to operate a commercial vehicle safely.
- Discuss effects of driving stress on the cardiovascular system.
- 

## **Cardiovascular Standards Objectives**

### **Cardiovascular Safety Implications**

- Recall the correlation between an aging driver population and the presence of cardiovascular disease (CVD). Discuss the risk for gradual or sudden incapacitation related to CVD.
- Review the risk of physically demanding non-driving tasks.
- Discuss the importance of driver timely recognition of signs and symptoms of CVD.
- Give examples of effects and/or side effects of CVD treatments that can interfere with the ability to drive safely.

### **Improved Testing and Treatment**

- Discuss the implications of improved diagnostic testing for and treatment of CVD on the commercial driving certification.
- Distinguish between prognosis considerations and risk to public safety considerations using CVD examples.

# CARDIOVASCULAR

Topic 3: Obtaining, reviewing, and documenting driver medical history, including prescription and over-the-counter (OTC) medications.

## Global Objectives

### Health History

- Recall that history is completed by the driver.
- Identify the health history questions that are specific to cardiovascular system. Give an example of cardiovascular historical findings.
- Explain how the example findings affect the physical examination and/or certification outcome.
- Give example of cardiovascular disease (CVD) treatments that can interfere with the ability to drive safely.

## Cardiovascular Standards Objectives

### Obtaining and Reviewing

- Discuss the importance of having the driver indicate onset date, diagnosis, treating provider's name and address, and any current limitation for CVD.
- Recall that many of the CVD recommendations include waiting periods.
- Give examples of minimally invasive cardiovascular procedures that a lay person may not consider "surgical" or significant health history.
- Discuss goals of health history review, including identification of:
  - Side effects of cardiovascular medications/treatments that interfere with ability to operate a CMV safely.
  - Possible effects of self-medication and supplement use while using CVD prescription medications.
  - Symptoms of CVD such as chest pain, pressure, palpitations, ache at rest or with exertion, dyspnea at rest or with exertion, and symptoms of claudication.
- Recall that medical examiners may need to obtain treating and/or specialist provider records to adequately assess driver cardiovascular medical fitness for duty.
- Discuss the importance of asking for actual test results and not just recommendations for driving clearance.

# CARDIOVASCULAR

Topic 4: Performing, reviewing, and documenting the driver's medical examination.

## Global Objectives

### Physical Examination

- Recall that the Medical Examination Report form body system “check for” lists the minimum heart and vascular system examination requirements.
- Describe the correct way to comment on abnormal findings according to the instructions in section 7: Physical Examination of the Medical Examination Report form.
- Recall that the affect of an abnormality on the ability of the driver to operate a commercial motor vehicle safely should be noted.
- Recall that abnormal findings should be discussed with the driver and the discussion documented.

## Cardiovascular Standards Objectives

### Examination of the Heart and Vascular System

- Discuss the heart check for list, including considerations such as: Is presence of condition disqualifying?
  - Is treatment disqualifying?
  - Does condition and/or treatment affect ability to drive?
  - What finding would indicate a need for additional testing and/or evaluation?
- Compare and contrast the examination for signs and symptoms of CVD that might interfere with safe driving with the examination with the goal to diagnose and treat CVD.

# CARDIOVASCULAR

Topic 5: Performing, obtaining, and documenting additional diagnostic tests or medical opinion from a medical specialist or treating physician.

## Global Objectives

### Ancillary Tests and Evaluation

- Recall that additional tests and/or evaluation should be obtained when examination findings are inconclusive for determining medical fitness for duty.
- Recall that additional test results and evaluation used to assess medical fitness for duty must be included with the Medical Examination Report form documentation.
- Differentiate between the role of the medical examiner to determine medical fitness for duty and the role of the primary care provider and/or specialists to diagnose and treat the condition.

## Cardiovascular Guidance Objectives

### Additional Evaluation Considerations

- Recall that FMCSA medical guidance recommends cardiologist's assessment because of the complexity and progressive nature of cardiovascular diseases.
- Discuss tests used for assessing the with known or suspected CVD, including:
  - Exercise tolerance test stress testing.
  - Echocardiography.
  - Angiography.
  - Radionuclide imaging.
- Discuss the New York Heart Association Classification of symptoms. Discuss waiting periods, including:
  - If more than one waiting period applies, the longer one should be used.
  - Recurrence of the disqualifying condition resets the waiting period.
- Discuss monitoring requirements such as monthly international normalized ratio (INR) measurements to help assure appropriate anticoagulation.

### Medical Guidelines for Cardiovascular Conditions

- Review medical guidelines for syncope.
- Discuss medical guidelines for coronary heart disease (CHD) and treatments, including:
  - Myocardial infarction.
  - Angina pectoris (stable and unstable).
  - Heart failure (congestive heart failure).
  - CHD risk-equivalent.
  - Percutaneous coronary intervention.
  - Coronary artery bypass graft surgery.
- Discuss medical guidelines for arrhythmias and treatments, including:
  - Ventricular tachycardia and ventricular fibrillation.
  - Supraventricular tachycardia.
  - Atrial fibrillation.
  - Pacemaker.
  - Implantable cardioverter defibrillators.
- Discuss medical guidelines for aneurysms and treatments, including: Abdominal aortic aneurysms (AAA).
  - Thoracic aneurysms.
  - Aneurysms in visceral and peripheral arteries and venous vessels. Surgical repair of aneurysms.

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- Discuss medical guidelines for peripheral vascular disease and treatments, including:
  - Surgical revascularization.
  - Deep vein thrombosis.
  - Anticoagulation.
  - Superficial phlebitis.
  - Varicose veins.
  - Chronic thrombotic venous disease.
- Review CVD recommendations not to certify diagnoses, including:
  - Hypertrophic cardiomyopathy.
  - Restrictive cardiomyopathy.
  - Pulmonary hypertension, regardless of the underlying cause.

# CARDIOVASCULAR

Topic 6: Informing and educating the driver about medications and nondisqualifying medical conditions that require remedial care.

## Global Objectives

### Discussion and Education

- Recall that the medical examiner has a responsibility to inform and educate the driver about use, effects, and/or side effects of medication that can interfere with safe driving.
- Discuss the importance of encouraging the driver with nondisqualifying medical conditions to seek appropriate remedial care that may prevent or delay future condition-related disqualification.

## Cardiovascular Standards Objectives

### Risk Factors for CVD

- Distinguish between CVD risk factors that are and are not modifiable by the driver.
- Discuss the importance of educating driver at risk for CVD to recognize and respond to symptoms of a cardiovascular event.

### Cardiovascular Agents

- Discuss possible side effects of cardiovascular agents that might interfere with safe driving.
- Give an example of a medication for which:
  - Drug and/or food interactions should be discussed with the driver.
  - Monitoring is required.
- Give examples of medical examiner discussion and advise that demonstrates the importance of relating information to driving ability and driver certification.

### Waiting Periods

- Recall that a driver may need to complete a waiting period before consideration for certification and explanation should include:
  - The conditions of the waiting period (e.g., time frame, symptom free).
  - Identification of what would cause a waiting period to restart.
- Give an example of using guidelines for:
  - Single waiting period.
  - Multiple waiting periods.

# CARDIOVASCULAR

Topic 7: Determining driver certification outcome and period for which certification should be valid.

## Global Objectives

### Certification Outcome

- Recall that medical examiner must determine certification status in accordance with FMCSA Physical qualification standards.
- Recall that only driver medical examiner certificate modifications that can be required are printed on the Medical Examination Report form status and the medical examiner's certificate.
- Discuss how medical guidance is used to help determine driver certification status.
- Recall that maximum certification period can not exceed 2 years.

## Cardiovascular Standard Objectives

### Certification of the Driver

- Discuss medical examiner responsibility to evaluate carefully each person on whom they perform a CMV driver physical examination, including:
  - Recall that CVD and its effects on driving have to be viewed in relation to the general health of the individual.
  - Recall that when the medical examiner is uncertain about the severity of the condition or prognosis, the decision for certification needs to be postponed until the additional necessary information is obtained.
- Review FMCSA general medical guidelines for certification of the driver with CVD, including:
  - Has the driver completed any recommended waiting period?
  - Do test results meet minimum recommended guidelines?
  - Has the treating provider, usually a cardiologist, cleared the individual for driving?
  - Has the condition medically stabilized?
  - Does the driver tolerate medication and/or treatment?
- Recall that the maximum period for which a driver with a CVD should be certified is 1 year.
- Recall recommendations for frequently seen medications and treatments that should be monitored during the certification period.

# CARDIOVASCULAR

Topic 8: FMCSA reporting and documentation requirements.

## **Global Objectives**

### **Documentation**

- Demonstrate correct documentation of the driver certification status on the Medical Examination Report form.
- Demonstrate correct completion medical examiner's certificate.
- Recall that the only modifications that a medical examiner can impose with driver certification are those that are printed on the Medical Examination Report form and medical examiner's certificate.

## **Cardiovascular Standards Objectives**

### **Cardiovascular Evaluation and Tests**

- Recall that additional evaluation and testing obtained to determine medical fitness for duty must be included with the Medical Examination Report form.
- Give examples of additional CVD evaluation and tests, including documentation of:
  - Rationale for disqualifying the driver.
  - Test results and corresponding medical guidelines.
  - Organic disease and whether or not compensation is sufficient to meet physical qualification requirements.



# CARDIOVASCULAR

## Self-checks

Self-checks are a stem and key example resource for developing knowledge mastery learning strategies, such as discussion, drill and practice, and pre- and post-topic comprehension assessment interactions. Use of self-check content is optional.

## Stems and Keys

### Cardiovascular Medical Guidance Recall

#### Stem

Can an interstate CMV driver who has had a acute myocardial infarction (AMI) be qualified to drive?

#### Key

**Yes**, provided the AMI was at least 2 months prior to the date of the CMV driver physical examination, the driver meets all the other recommended cardiac qualification criteria, and the driver meets all meets all the other standards for interstate CMV drivers.

#### Stem

The driver provides the medical examiner with a copy of records, including a cardiologist's report indicating a diagnosis of congestive heart failure and that the driver's ejection fraction is 38%. Can the driver be certified?

#### Key

**No**. The ejection fraction needs to be greater than 40% for the driver to be certified.

#### Stem

What criteria must be met in order for the FMCSA medical examiner to qualify a driver with a known diagnosis of congestive heart failure (CHF)?

#### Key

The driver must:

- Be asymptomatic.
- Have no ventricular arrhythmias.
- Have a left ventricular ejection fraction (LVEF) greater than 40%.
- Be under the care of a cardiologist or appropriate medical professional.

### Cardiovascular Medical Guidance Application

#### Stem

Using cardiovascular medical guidance, for each driver, is the driver medically qualified or medically disqualified?

1. Driver with percutaneous coronary intervention (PCI) 9 months ago; he or she has not followed up with cardiologist and has not had exercise tolerance test (ETT) since procedure.
2. Coronary artery bypass graft (CABG) surgery 4 months ago; echo at 3 months showed left ventricular ejection fraction (LVEF) 55%; driver was cleared by cardiologist and has no chest pain.
3. Driver with CHF having dyspnea at rest.

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4. Driver has recently had increasing angina which last 20 minutes after tarping a load; he or she is unresponsive to nitroglycerin.

### Key

1. Medically disqualified. According to current CVD recommendations, the driver who had PCI should have cardiology follow-up to include ETT 3 to 6 months post-PCI.
2. Medically qualified: According to current CVD recommendations, the driver who had had CABG surgery may be qualified at 3 months post-procedure if asymptomatic, LVEF greater than 40%, and meets all other recommendations (qualify with annual recertification).
3. Medically disqualified. According to current CVD recommendations, a driver with CHF with symptoms is not medically fit for duty.
4. Medically disqualified. According to current CVD recommendations, a driver with unstable angina is not medically fit for duty.

### Stem

A driver has an abdominal aortic aneurysm. The medical examiner obtains a copy of an abdominal sonogram indicating that the aneurysm is 5.3 cm in diameter. According to current CVD recommendations, should the medical examiner certify this individual?

### Key

**No.** For a driver to be certified, the abdominal aortic aneurysm should be less than 5 cm in diameter.

### Stem

Before the examination begins, the driver gives the examiner a letter from his cardiovascular surgeon, indicating that he had surgical repair of a 9 cm abdominal aortic aneurysm 4 months previously, and the driver is now cleared to resume all activities. According to current CVD recommendations, can the examiner certify this driver?

### Key

**Yes.** for up to 1 year. According to current CVD recommendations, a driver with a successfully repaired abdominal aortic aneurysm can return to driving 3 months postoperatively, if their surgeons clears them to do so, but they must be rechecked every year.

## Cardiovascular Signs and Symptoms Recall

### Stem

What signs and symptoms should medical examiners look for in drivers with a diagnosis of congestive heart failure? Discuss how these symptoms affect the ability of the driver to safely operate a CMV?

### Key

Fatigue, swelling in the legs, ankles, or other parts of the body, and shortness of breath, particularly if at rest (dyspnea).

Fatigue and swelling can present an immediate risk to safe driving because fatigue interferes with the ability of the driver to remain alert to traffic conditions and environment, and at worst may result in the driver falling asleep while driving. Swelling in extremities can interfere with gross and fine motor movements used in shifting gears, operating pedals, and other dashboard switches, buttons, levers, etc.

# CARDIOVASCULAR

## Scenarios

The objective of the clinical scenario is to reinforce application of the FMCSA regulations and guidance in the clinical setting to effectively perform the driver physical examination. Use of example cases is optional. When used, the scenario can be used as a whole or in part to develop learning strategies such as vignettes, role plays, simulations, and group discussion. Remember that all FMCSA Medical examiner certification test items assess knowledge acquired through training in the context of medical examiner performance of critical tasks.

The format used to present the medical facts for the scenarios is based on the data a medical examiner records on the Medical Examination Report form.

**Scenario 1: Driver with multiple risk factors for coronary heart disease (CHD)**

**Scenario 2: Driver post-coronary artery bypass graft (CABG) surgery**

**Scenario 3: Driver with possible coronary heart disease**

### Medical Examination Report Form — Scenario 1 Ms. Christine Donovan

#### Ms. Donovan—Recertification Examination

Sex: Female | Age: 62 | Height: 62" | Weight: 203 lbs.

#### Health History

Yes response(s): None

Medication(s): None

#### Health History Comments

Postmenopausal. Denies exercise or special diet. Smokes two packs per day (for past 23 years).

Family history positive for cardiac events:

- Mother MI at age 53 years.
- Father sudden death at age 59 years.
- Positive family history for hypercholesterolemia.

Denies chest pain, palpitations, or shortness of breath at rest or while performing driver tasks.

#### Vision

Uncorrected Acuity: Rt. Eye: 20/30 Lt. Eye: 20/40 Both: 20/30

Horizontal Field of Vision: Rt. Eye: 90° Lt. Eye: 90°

Meets standard only when wearing: corrective lenses? No

Color: Can distinguish red, green, and amber colors? Yes

Monocular Vision? No

#### Hearing

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: 5 Feet Lt. Ear: 5 Feet

# CARDIOVASCULAR

Audiometric test hearing loss average: Rt. Ear: N/A Lt. Ear: N/A

## Blood Pressure/Pulse

BP-138/88 P-90 & Regular

## Urinalysis

SP. GR.: 1.020 | Protein: Neg: | Blood: Neg | Glucose: Neg

## Physical Examination Comments

1. The physical examination reveals a markedly overweight female in no distress and causing no interference with ability to drive. Advised driver to see personal care provider for diet and exercise regimen for weight loss that may lower her risk for onset of coronary heart disease (CHD).

The rest of the physical examination was unremarkable.

## Stems and Keys

### Best Outcome

#### Stem

What is the certification decision in this scenario?

#### Key

Meets standards, but periodic monitoring is recommended due to multiple risk factors for CHD and is over 45 years of age. 1 year certificate.

The medical examiner identified that Ms. Donovan has multiple risk factors for coronary heart disease, but she does not have a current clinical diagnosis. She is not on any treatment and presents without symptoms or signs. She does not have any risk-equivalent co-morbidities of diabetes or peripheral vascular disease.

According to current medical guidelines, (page 9 of the 2002 cardiovascular report) a commercial driver who has multiple risk factors for CHD and is 45 years of age or older should be re-certified annually. Disqualification requires that the commercial driver has a higher than acceptable likelihood of acute incapacitation from a cardiac event.

## Risk Factors for CHD

#### Stem

What non-modifiable and modifiable risk factors did the medical examiner note in the health history? Discuss how the medical examiner comments demonstrate knowledge of FMCSA medical guidance for CVD.

#### Key

Non-modifiable

1. Family history of premature heart disease – Noted cardiac events and age of the parents when events occurred.
2. Increased age – Noted driver age of 62 years.
3. Gender (male or postmenopausal female) – Noted driver is postmenopausal female.

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### Modifiable

1. Hypertension systolic >140 mmHg or diastolic >90 mmHg.
2. Tobacco smoking – current or recent past (<1 year). Noted smoking history.
3. Hypercholesterolemia – Noted positive family history.
4. Low HDL.
5. Diabetes mellitus – Accepted history.
6. Overweight or obese – Noted denial of special diet.
7. Physical inactivity – Noted denial of exercise routine.
8. Nutritional habits (contributing by not definite CHD risk factor) – Noted denial of special diet.

### Risk Factors for CHD Impact on Certification

#### Stem

Medical examiners typically do not have a "treating provider" relationship with the drivers they examine. This medical examiner discussed weight control, smoking cessation, regular exercise, and other risk factor modifications, and counseled her to see or obtain a primary care provider for regular medical care, particularly for relevant cardiac risk factors.

Was this appropriate or should the medical examiner only have provided the physical examination? Support your answer.

#### Key

General information in the Medical Examination Report states that "Medical conditions should be recorded even if they are not cause for denial, and they should be discussed with the driver to encourage appropriate remedial care. This advice is especially needed when a condition, if neglected, could develop into a serious illness that could affect driving."

While the medical examiner gave the appropriate advice, it would have been more complete adding that she is at risk for developing conditions that could lead to disqualifications, but are less likely to do so if identified and treated early.

The medical examiner could also have explained that since age is a non-modifiable risk factor, more frequent monitoring conforms to FMCSA medical guidelines.

### Medical Examination Report Form — Scenario 2 Mr. Jason Feldstein

#### Mr. Feldstein—Recertification Examination

Sex: Male | Age: 62 | Height: 72" | Weight: 180 lbs.

#### Health History

Yes response(s): Heart Surgery – Coronary Artery Bypass Graft (CABG) surgery 6 weeks ago.

Medication(s): Aspirin daily.

#### Health History Comments

Presence of unstable angina led to CABG 6 weeks ago. Mr. Feldstein states that he "Feels 10 years younger

## CARDIOVASCULAR

since surgery!" Included in the cardiologist report dated 3 1/2 weeks post-CABG surgery is clearance for driving. "OK to driver." Mr. Feldstein denies any post-surgery episodes of angina. Mr. Feldstein also tolerates daily low-dose aspirin with no side effects that interfere with driving ability.

### Vision

Uncorrected Acuity: Rt. Eye: 20/50 Lt. Eye: 20/25 Both: 20/25

Horizontal Field of Vision: Rt. Eye: 80° Lt. Eye: 80°

Meets standard only when wearing: corrective lenses? Yes

Color: Can distinguish red, green, and amber colors? Yes

Monocular Vision? No

### Hearing

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: 5 Feet Lt. Ear: 5 Feet

Audiometric test hearing loss average: Rt. Ear: N/A Lt. Ear: N/A

### Blood Pressure/Pulse

BP-112/66 P-64 & Regular

### Urinalysis

SP. GR.: 1.020 | Protein: Neg: | Blood: Neg | Glucose: Neg

LVEF % is not included with medical records Mr. Feldstein brought to examination.

### Physical Examination Comments

On auscultation, there is an S4 gallop heard best at the sternum. Has a median sternotomy scar consistent with recent surgery.

The rest of the physical examination was unremarkable.

### Stems and Keys

#### Best Outcome

##### Stem

What is the certification decision in this scenario?

##### Key

The medical examiner used current cardiovascular guidance that include having the driver complete a minimum 3-month waiting period to allow or sufficient time for the sternum to heal. The medical records provided by the driver also needed to include a post-surgical LVEF measurement that was greater than 40% to meet certification guidelines.

Recall that post-CABG guidance for certification also includes that the driver:

## CARDIOVASCULAR

- Has cardiologist clearance for driving.
- Is asymptomatic.
- Tolerates medication.
- Has no side effects that interfere with driving.

### Additional Post-CABG Guidance

#### Stem

Discuss the recommended criteria for qualifying a driver post-CABG relating to the available facts when appropriate.

1. Qualifying examination at least 3 months after CABG.
2. Examination and approval by a cardiologist before resuming CMV driving.
3. Driver is asymptomatic.
4. Annual medical qualification examination.
5. After 5 years, yearly ETT because of accelerated graft closure.
6. Radionuclide stress testing or echocardiographic myocardial imaging is indicated if the driver is not able to achieve a satisfactory ETT result, has a dysrhythmia, or has an abnormal resting electrocardiogram.
7. Resting echocardiogram at the time of the first qualifying examination after CABG (a documented report of an echocardiogram performed in-hospital after CABG is equally sufficient). Disqualification occurs in the presence of left ventricular dysfunction (ejection fraction <40%).
8. Tolerance to all cardiovascular medications with no orthostatic symptoms.

#### Key

1. The driver is only 6 weeks post-CABG and should be at least 3 months.
2. Although the cardiovascular surgeon has indicated that the driver is fit to drive, the medical examiner is the one who determines if the driver meets qualification standards.
3. Auscultation reveals an S4 which should be evaluated.
4. Will apply from the date of the medical examination of the driver that has a certify outcome. Recall that the recommended waiting period is for minimum time lapse before considering the driver for certification.
5. The date of surgery is the date used to determine when the driver is 5 years post-CABG and when to begin having the driver obtain an annual ETT as part of the medical examination.
6. The medical examiner notes an S4 gallop. Radionuclide stress testing or echocardiographic myocardial imaging is indicated if the driver is not able to achieve a satisfactory ETT result, has a dysrhythmia, or has an abnormal resting electrocardiogram.
7. Driver needs to have a resting echocardiogram or provide a copy of a documented report of an echocardiogram performed in-hospital after CABG. Disqualification occurs in the presence of left ventricular dysfunction (ejection fraction <40%).
8. N/A – No medications were listed.

### Medical Examination Report Form — Scenario 3 Mr. Benjamin Gray

#### Mr. Gray—Recertification Examination

Sex: Male | Age:45 | Height: 67" | Weight: 150 lbs.

#### Health History

## CARDIOVASCULAR

Yes response(s): Heart disease or heart attack.

Medication(s): Aspirin daily.

### Health History Comments

He is currently seeing a cardiologist for a single episode of chest pain that occurred 2 weeks ago while roofing his home. Chest pain:

- Lasted a half hour, gradually resolved without treatment.
- Located primarily in the left pectoral area, not radiating, and aggravated by movement of the left arm. "Felt like a charley horse" with mild residual soreness present for about 24 hours.
- Consulted with primary care provider who referred Mr. Gray to a cardiologist.

Mr. Gray provided a copy of cardiologist report:

- Primary care provider evaluated him the day after chest pain episode – started aspirin and referred to a cardiologist.
- Cardiologist reports normal EKG.
- Scheduled lab work and stress test/echocardiogram in 2 weeks.
- No medications prescribed and no activity restrictions.
- No recurrence of the chest pain.
- Continues to run 2 miles 3 times a week without symptoms.
- No previous history of cardiovascular disease.
- Mr. Gray is a nonsmoker, has no hyperlipidemia history.
- Father had an MI at age 69.

### Vision

Uncorrected Acuity: Rt. Eye: 20/25 Lt. Eye: 20/25 Both: 20/25

Horizontal Field of Vision: Rt. Eye: 90° Lt. Eye: 90°

Meets standard only when wearing: corrective lenses? No

Color: Can distinguish red, green, and amber colors? Yes

Monocular Vision? No

### Hearing

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: N/A Lt. Ear: N/A

Audiometric test hearing loss average: Rt. Ear: 30 Lt. Ear: 28.33

### Blood Pressure/Pulse

BP-112/70 P-84 & Regular

### Urinalysis



# CARDIOVASCULAR

SP. GR.: 1.030 | Protein: Neg: | Blood: Neg | Glucose: Neg

## Physical Examination Comments

Examination is unremarkable.

## Stems and Keys

### Best Outcome

#### Stem

What is the certification decision in this scenario?

#### Key

The medical examiner certified the driver for 3 months to follow up on lab and stress test results.

The cardiovascular standard requires the driver: "have no current clinical diagnosis of myocardial infarction, angina pectoris, coronary insufficiency, thrombosis, or any other CVD of a variety known to be accompanied by syncope, dyspnea, collapse, or congestive cardiac failure."

Neither the primary care provider or cardiologist examinations of Mr. Gray confirmed a diagnosis of CHD. It is not the role of the medical examiner to diagnose and treat the driver; however, the medical examiner decides whether the nature and severity of the condition is such that the driver is at a high risk for sudden incapacitation.

The physical examination was unremarkable and Mr. Gray had resumed normal activities prior to examination. Nor does the primary care provider report or the cardiologist report indicate the driver is at an increased risk for a CHD event. The underlying cause of chest pain episode appears to be chest wall musculature stress; however, the driver is scheduled for additional lab work and stress testing.

The medical examiner shortened the interval to ensure the laboratory work and stress test results are considered before making a final decision on the certification period.

## Follow Up Considerations

#### Stem

Discuss what the medical examiner determination is likely to be if the test results are normal.

#### Key

If the medical examiner follows up on the test results and does not perform a complete examination of the driver, with no current clinical diagnosis of cardiovascular disease, may be certified for up to 2 years from the date of the original examination.

If the medical examiner performs a complete physical in addition to reviewing the test results, with no current clinical diagnosis of cardiovascular disease, may be certified for up to 2 years from the day of examination.

Whether or not the medical examiner performs a complete physical is dependent on whether or not the driver returns to the same examiner.

## **HYPERTENSION**

# **Training Provider Handbook: Hypertension–Module Overview**

### **Goal**

FMCSA certified medical examiners will measure blood pressure (BP), assess driver hypertension, and document findings, including advise given the driver regarding the affects of hypertension on medical fitness for duty, in accordance with the FMCSA physical qualification standards and policies.

### **Competencies**

Training should prepare the examiner to appropriately apply knowledge of hypertension standards and guidance to the performance of these tasks. Also, test items directly assess these tasks.

### **Identification and History**

- Identify, query, and note issues in a driver's medical record and/or health history as available, which may include:
  - current over-the-counter (OTC) and prescription medications and supplements, and potential side effects, which may be potentially disqualifying
  - cardiovascular diseases (e.g., hypertension, congestive heart failure, myocardial infarction, coronary insufficiency, or thrombosis)

### **Physical Examination and Evaluation**

- Examine the driver's heart
  - blood pressure and pulse (rate and rhythm)

### **Diagnostic Tests and/or Referrals**

- Obtain additional information when indicated by:
  - other test
- Refer a drive who exhibits evidence of any of the following disorders for follow-up care and evaluation by an appropriate specialist or primary care provider
  - cardiac (e.g., myocardial infarction, coronary insufficiency, blood pressure control)

### **Documentation of Ancillary Information**

- Integrate a specialist's evaluation with other information about the driver

### **Health Education Counseling**

- Inform the driver of the rationale for delaying or potentially disqualifying certification, which may include
  - uncontrolled hypertension

### **Risk Assessment**

- Integrate FMCSA medical advisory criteria and guidelines regarding a driver's condition into the risk assessment
- Consider for documented conditions the rate of progression, degree of control, and likelihood of sudden incapacitation (e.g., cardiovascular, neurological, respiratory, musculoskeletal)

### **Certification Outcomes and Intervals**

## HYPERTENSION

- Disqualify a driver when evidence shows a condition exists that will likely interfere with the safe operation of a CMV, which may include sufficient supporting opinions and information from specialists
- Document the reason(s) for the disqualification and / or referral
- Advise a driver certified with a limited interval to return for recertification with the appropriate documentation for his or her condition

**NOTE:** Although all the tasks in the Certification Outcomes and Intervals are global tasks, it is in the medical examiners' interest to expand upon these tasks, as they relate to using the hypertension medical guidance due to the complexity of national hypertension medical guidelines.

### FMCSA Content Sources

At the completion of training, the medical examiner should be able to use the following FMCSA regulations and guidance resources to correctly perform driver hypertension assessment:

- 49 CFR 391.41(b)(6) Physical qualifications for drivers (Blood pressure standard)
- 49 CFR 391.43(f) **Blood Pressure (BP)** Medical examination; certificate of physical qualification (Blood Pressure)
- Medical Examination Report form and Advisory Criteria
- Medical examiner's certificate
- Cardiovascular Advisory Panel Guidelines for the Medical Examination of Commercial Motor Vehicle Drivers. PDF October 2002.
- FMCSA Medical Examiner Handbook, High Blood Pressure/Hypertension (b)(6)

## **HYPERTENSION**

### **Training Provider Handbook: Hypertension–Topic Outline**

Topic 1: Background, rationale, mission, and goals of the FMCSA medical examiner's role in reducing crashes, injuries, and fatalities involving commercial motor vehicles (CMVs).

#### **Global Objectives**

##### **Regulation and guidance**

- Recall that regulations or standards are laws and must be followed.
- Recall that medical examiners are responsible for determining if the CMV driver is medically qualified and safe to drive under the Federal Motor Carrier Safety Regulations (FMCSRs).
- Recognize that guidelines are intended as best practices for medical examiners.

#### **Hypertension Standards Objectives**

##### **Driver Physical Qualification Requirements**

- Recall that hypertension qualification requirements are cited in 49 CFR 391.41 (b)(6).

##### **Medical Examiner Responsibilities**

- Discuss the instruction in 49 CFR 391.43 Blood Pressure (BP) "the driver must remain under adequate medical supervision".
- Recall that the examiner who signs the Medical Examination Report form is responsible for the accuracy of BP measurements.

##### **Instructions to Medical Examiner**

- Discuss hypertension advisory instruction points, including:
  - Using hypertension stages to assist in determining medical fitness for duty.
  - Treatment considerations (e.g., tolerance, effectiveness, maximal or near maximal dosage).

Topic 2: Familiarization with the responsibilities and work environment of commercial motor vehicle (CMV) operation.

#### **Global Objectives**

##### **Job of Commercial Driving**

- Describe the safety implications of CMV driving for the driver and the public.
- Give an example of how work environment impacts the ability of the driver to operate a CMV safely.
- Discuss effects of driving stress on the cardiovascular system.

#### **Hypertension Standards Objectives**

##### **Hypertension Safety Implications**

## **HYPERTENSION**

- Relate the stages of hypertension to driving ability and the risk for gradual or sudden incapacitation.
- Discuss that CMV drivers have an increased propensity for the development of hypertension that exceeds the risk seen in other professions.
- Discuss the effect of hypertension on target organs that also increase the risk of sudden incapacitation.
- Discuss the presence of hypertension as a risk factor for coronary heart disease (CHD) and other cardiovascular diseases (CVD).

Topic 3: Obtaining, reviewing, and documenting driver medical history, including prescription and over-the-counter (OTC) medications.

### **Global Objectives**

#### **Health History**

- Recall that history is completed by the driver.
- Identify the health history questions that are specific to high blood pressure (BP) and medications used to control BP.
- Explain how the example findings affect the physical examination and/or certification outcome.
- Give examples of CVD treatments that can interfere with the ability to drive safely.

### **Hypertension Standard Objectives**

#### **Obtaining and Reviewing**

- Give examples of medical examiner historical review inquiry that may indicate the presence of undiagnosed hypertension.
- Give examples of medical examiner inquiry about medications used to control hypertension.
- Discuss side effects that might interfere with safe driving.
- Discuss implications of different medication regimens (e.g., single antihypertensive medication that is well tolerated, multiple antihypertensive medications at near maximal dosage, etc.).
- Give examples of other historical information that would assist the medical examiner in assessing driver medical fitness for duty.

#### **Documenting**

- Give examples of correctly documenting history of antihypertensive treatment, including:
  - Lifestyle changes.
  - Use of antihypertensive medications, include side effects and interactions with other drugs, food, and/or alcohol.

Topic 4: Performing, reviewing, and documenting driver's medical examination.

### **Global Objectives**

#### **Physical Examination**

- Recall that measuring blood pressure (BP) and pulse of the driver is required for every certification and recertification examination.
- Recall that an elevated BP must be confirmed by a second measurement later in the examination.
- Describe the correct way to comment on abnormal findings, according to the instructions in Section 5, Blood Pressure/Pulse Rate on the Medical Examination Report form.

## **HYPERTENSION**

- Recall that the Medical Examination Report form Body System "check for" list for the vascular system includes abnormal pulse and amplitude.
- Describe the correct way to comment on abnormal findings, according to the instructions in Section 7, Physical Examination, on the Medical Examination Report form.
- Recall that the effect of an abnormality on the ability of the driver to operate a commercial motor vehicle (CMV) safely should be noted.
- Recall that abnormal findings should be discussed with the driver and the discussion documented.

### **Hypertension Standards Objectives**

#### **Measure BP**

- Review factors that may contribute to an inaccurate BP reading.
- Discuss the rationale for obtaining a minimum of two BP readings on the same day to confirm an elevated BP.
- Review that FMCSA considers two elevated BP readings at consecutive examination, whether follow up or recertification, as readings that confirm an elevated BP.
- Recall what BP ranges are classified as Stage 1, Stage 2 and Stage 3 hypertension.

#### **Measuring Pulse Rate and Rhythm**

- Recall that both pulse rate and rhythm are to be obtained and recorded.

#### **Reviewing BP**

- Recall that medical guidance for the same stage of hypertension may be different, depending upon whether the medical examiner has driver records from previous, consecutive driver physical examinations, or if this is the first time the medical examiner has performed the physical examination.
- Discuss appropriate action that the medical examiner should take when the driver has Stage 3 hypertension at examination.

#### **Documenting BP and Pulse**

- Review the Medical Examination Report form, Page 2, Section 5, Blood Pressure/Pulse Rate.
- Recall that the medical examiner should record results of all BP measurements obtained during the physical examination.

Topic 5: Performing, obtaining, and documenting additional diagnostic tests or medical opinion from a medical specialist or treating physician.

### **Global Objectives**

#### **Ancillary Tests and Evaluation**

- Recall that additional tests and/or evaluation should be obtained when examination findings are inconclusive for determining medical fitness for duty.
- Recall that additional test results and evaluation used to assess medical fitness for duty must be included with the Medical Examination Report form.
- Differentiate between the role of the medical examiner to determine medical fitness for duty and the role of the primary care provider to diagnose and treat the condition.

### **Hypertension Guidance Objectives**

# HYPERTENSION

## Additional Evaluation Considerations

- Discuss the significance of the hypertension as a factor in determining whether or not additional testing and evaluation is needed, including because of the:
  - Risk for CVD.
  - Risk for or assessment of associated target organ damage.
  - Presence of comorbidities.

Topic 6: Informing and educating the driver about medications and non-disqualifying medical conditions that require remedial care.

## Global Objectives

### Discussion and Education

- Recall that the medical examiner has a responsibility to inform and educate the driver about use, effects, and/or side effects of medication that can interfere with safe driving.
- Discuss the importance of encouraging the driver with a non-disqualifying medical condition to seek appropriate remedial care that may prevent or delay future disqualification.

## Hypertension Standards Objectives

### Informing and Educating the Driver

- Inform the driver of rationale for more frequent monitoring decisions.
- Give examples of discussions the medical examiner may have regarding the importance of:
  - Routine monitoring by primary care provider.
  - Adherence to primary care provider treatment plan.
- Compare and contrast medical examiner advice to the driver having non-disqualifying, Stage 1 hypertension with advice to the driver with non-disqualifying, Stage 2 hypertension.
- Explain the purpose of a one-time, 3-month certificate applying to consecutive physical examination and restarting with BP less than or equal to 140/90.

Topic 7: Determining driver certification outcome and period for which certification should be valid.

## Global Objectives

### Certification outcome

- Recall that medical examiner must determine certification status in accordance with FMCSA Physical qualification standards.
- Recall that only driver medical examiner certificate modifications that can be required are printed on the Medical Examination Report form status and the medical examiner's certificate.
- Discuss how medical guidance is used to help determine driver certification status.
- Recall that maximum certification period cannot exceed 2 years.

## Hypertension Standard Objectives

- Recall that maximum recommended certification period of the driver with hypertension is 1 year.
- Explain the purpose of a one-time, 3-month certificate.
- Explain how to determine whether or not the driver can be issued a 3-month certificate.
- Give examples of certification periods that conform with guidance for the driver having:
  - Stage 1 hypertension who is not on treatment.
  - Stage 1 hypertension who is on treatment.
  - Stage 2 hypertension who is not on treatment.

## **HYPERTENSION**

- Stage 2 hypertension who is on treatment.
  - A 3-month certificate and Stage 1 hypertension.
  - A 3-month certificate and Stage 2 hypertension.
  - A 3-month certificate and a BP that is less than or equal to 140/90.
- Give examples of when a medical examiner might shorten the recommended certification period.

### **Do Not Certify the Driver**

- Recall that the driver with a BP greater than or equal to 180/110 is at risk for an acute hypertensive event that could occur while operating a CMV thus endangering the driver and public safety.
- Give examples of other hypertension related rationale supporting medical examiner decision not to certify the driver, such as:
  - Failure to achieve an acceptable BP at expiration of a one-time, 3-month certificate.
  - Presence of disqualifying side effects from medication.

## **Topic 8: FMCSA reporting and documentation requirements.**

### **Global Objectives**

#### **Documentation**

- Demonstrate correct documentation of driver certification status on the Medical Examination Report form.
- Demonstrate correct completion of medical examiner's certificate.
- Recall that the only modifications that a medical examiner can impose with driver certification are those that are printed on the Medical Examination Report form and medical examiner's certificate.

### **Hypertension Standards Objectives**

#### **Hypertension Evaluation and Tests**

- Give examples of documentation that correctly demonstrate:
  - Expiration date for 1-year certification.
  - Expiration date for 1-year certification following issuance of a one-time, 3-month certificate follow-up examination for hypertension.
  - Expiration date for 1-year certification following issuance of a one-time, 3-month certificate recertification examination at which driver had a BP less than or equal to 140/90.



## HYPERTENSION

# Training Provider Handbook: Hypertension–Learning Strategies

### Self-checks

Self-checks are a stem and key example resource for developing knowledge mastery learning strategies, such as discussion, drill-and-practice, and pre- and post-topic comprehension assessment interactions. Use of self-check content is optional.

## Stems and Keys

### Hypertension Medical Guidance Recall

#### Stem

Using current FMCSA guidelines, what is the maximum certification period for an interstate CMV driver with Stage 1 hypertension?

#### Key

1 year.

#### Stem

Using current FMCSA guidelines, what is the proper determination for an interstate CMV driver, with a diagnosis of hypertension, who presents with a confirmed BP of 182/112?

#### Key

A CMV driver with a Stage 3 BP should be immediately disqualified until the BP is controlled below 140/90. The driver presents an unacceptable risk for an acute hypertensive event that endangers the safety and health of the driver and the public.

#### Stem

Using current FMCSA guidelines, what is the maximum period of certification for a driver disqualified for Stage 3 hypertension, but who has, at the certification examination, a BP less than 140/90?

#### Key

6-month certification if the driver also tolerates medication with no side effects that interfere with driving ability.

### Stages of Hypertension Recall

#### Stem

A CMV driver with a diagnosis of hypertension presents with a BP of 182/112. This is Stage \_\_\_\_.

#### Key

Stage 3.

#### Stem

What is the BP range for Stage 1 hypertension?

#### Key

140/90 through 159/99 or 140-159/90-99.

A BP of 140/90 should be confirmed with a second reading during the examination:

## HYPERTENSION

- If the second reading is less than 140/90, the medical examiner may choose to certify for up to 2 years if the driver is not taking anti-hypertensive medications. If the driver is taking anti-hypertensive medications, 1 year would then be the maximum certification period.
- If the second reading is greater than 140/90, the medical examiner should use Stage 1 guidance for certification.
- If both readings are 140/90, the medical examiner may obtain an additional reading or use his/her clinical judgment and consider BP and overall driver medical fitness for duty to determine certification status and certification period.

### Certification Period Recall

#### Stem

What date is used to determine the 1-year expiration date of for a driver, with a one-time, 3-month certificate, who achieves a BP less than or equal to 140/90 before the 3-month certificate expires?

#### Key

One-year certification is based on the date of the initial certification examination. If the medical examiner performs a complete recertification examination, in addition to following up on BP, then the 1-year expiration would be based on the current date.

#### Scenarios

The objective of the clinical scenario is to reinforce application of the FMCSA regulations and guidance in the clinical setting, to effectively perform the driver physical examination. Use of example cases are optional. When used, the scenario can be used as a whole or in part to develop learning strategies as vignettes, role plays, simulations, and group discussion. Remember that all FMCSA Medical Examiner Certification Test items assess knowledge acquired through training in the context of medical examiner performance of critical tasks.

The format used to present the medical facts for the scenarios is based on the data a medical examiner records on the Medical Examination Report form.

### Medical Examination Report Form—Ms. Mary Hall

#### Ms. Hall—Recertification Examination (current certificate expires at midnight on examination day)

Sex: Female | Age: 42 | Height: 67" | Weight: 150 lbs.

#### Health History

Yes response(s): High BP

Medication(s): HCTZ (Oretic) 25 mg every day, Enalapril (Vasotec) 20 mg every day.

#### Health History Comments

- Smokes 1 1/2 packs of cigarettes per day (for past 20 years).
- Divorced, mother of four children.
- Came to exam following 10 hours of driving; has not yet slept.
- Had several cups of coffee and a couple of cigarettes within past 2 hours.
- Forgot to take medication before leaving from home.
- Short hauls, returns home each day so she doesn't carry extra meds in truck; suggested she might want to carry 1 or 2 days worth with her in case of unexpected overnight delays.

## HYPERTENSION

- Treated for hypertension by her primary care physician, Dr. Strokes, for the past 10 years. Produced primary care provider's records from last physical exam, 8 months ago, which included:
  - Expiration date for 1-year certification.
  - Negative exam.
  - BP 120/84.
  - PCP noted "tolerates medications well and experiences no side effects."

### Vision

Uncorrected Acuity: Rt. Eye: 20/20 Lt. Eye: 20/20 Both: 20/20

Horizontal Field of Vision: Rt. Eye: 80° Lt. Eye: 80°

Meets standard only when wearing: corrective lenses? No

Color: Can distinguish red, green, and amber colors? Yes

Monocular Vision? No

### Hearing

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: 5 Feet Lt. Ear: 3 Feet

Audiometric test hearing loss average: Rt. Ear: N/A Lt. Ear: N/A

### Blood Pressure/Pulse

BP-151/94 P-92 & Regular. Confirmed elevated BP 154/94. Ms. Hall is concerned because current medical examiner's certificate expires today.

### Urinalysis

SP. GR.: 1.020 | Protein: Neg | Blood: Neg | Glucose: Neg

### Physical Examination Comments

Confirmed elevated systolic and diastolic BP. Rest of examination is unremarkable.

## Stems and Keys

### Best Outcome

#### Stem

What is the certification decision in this scenario?

#### Key

Ms. Hall meets all physical qualification standards except for a confirmed Stage 1 hypertension. Using the medical guidelines for recertification of a driver with a known diagnosis of and treatment for hypertension, the medical examiner certifies Ms. Hall for 3 months. This is her first examination at which she has a BP that is greater than 140/90. This allows her to continue to drive, while she takes actions to lower her BP.

## HYPERTENSION

In Ms. Hall's case, making sure she follows her medication regimen may be the action required to effectively lower her BP. Within the 3-month certification period, Ms. Hall should return for a follow-up BP measurement. If she has a BP less than 140/90, the medical examiner may issue a 1-year certificate. The expiration date is 1 year from the date of the physical examination, not the follow-up date, when only her BP is checked.

### **Risk Evaluation**

#### **Stem**

What factors could have contributed to Ms. Hall having Stage 1 hypertension at the time of examination?

#### **Key**

At the time of examination, Ms. Hall had:

- Missed her scheduled medication.
- Not had a chance to rest following a long shift.
- Recently consumed several cups of coffee.
- Been smoking cigarettes immediately prior to the examination.
- Concerns about medical examiner's certificate expiring.

#### **Stem**

What physical examination findings indicate that Ms. Hall is a low risk for a hypertensive event that would interfere with safe driving?

#### **Key**

At the time of examination, Ms. Hall had:

- No history or findings of end-organ impairment.
- Medication doses that are not a maximal level, and she is only prescribed two drugs to manage hypertension.
- History that points to primary hypertension that has responded well to medical treatment.
- Normal urinalysis.
- Stage 1 hypertension, which by definition does not present an immediate risk to driving ability.

## RESPIRATORY

# Training Provider Handbook: Respiratory –Module Overview

### Goal

FMCSA certified medical examiners will assess driver respiratory, determine medical fitness for duty, and document examination findings and effect on fitness for duty in accordance with the FMCSA physical qualification standards and policies.

### Competencies

Training should prepare the examiner to appropriately apply knowledge of hypertension standards and guidance to the performance of these tasks. Also, test items directly assess these tasks.

#### Identification and History

- Identify, query, and note issues in a driver's medical record and/or health history as available, which may include:
  - pulmonary symptoms (e.g., dyspnea, orthopnea, chronic cough) pulmonary diseases (e.g., asthma, chronic lung disorders, tuberculosis, previous pulmonary embolus, pneumothorax)

#### Physical Examination and Evaluation

- Examine the driver's mouth and throat; note conditions that may interfere with breathing, speaking, or swallowing  
Examine the driver's lungs, chest, and thorax, excluding breasts, and note: respiratory rate and pattern ( IB8a)
  - abnormal breath sounds abnormal chest wall configuration/palpation
  - scars

#### Diagnostic Tests and/or Referrals

- Obtain additional information when indicated by:
  - chest radiograph
  - respiratory tests (e.g., spirometry, diffusion, lung volumes, oximetry or arterial blood gas analysis, with or without exercise)
  - sleep studies
  - drug level monitoring (e.g., digoxin, theophylline)
- Refer a driver who exhibits evidence of any of the following disorders for follow-up care and evaluation by an appropriate specialist or primary care provider
  - pulmonary (e.g., emphysema, fibrosis)
  - sleep (e.g., obstructive sleep apnea)

#### Documentation of Ancillary Information

- Record/include results, as available with other information about the driver, which may include:
  - chest radiograph respiratory tests (e.g., spirometry, diffusion, lung volumes, oximetry or arterial blood gas analysis, with or without exercise)
  - sleep studies drug level monitoring (e.g., digoxin, theophylline)
- Integrate a specialist's evaluation with other information about the driver

#### Health Education Counseling

- Advise a driver:
  - regarding side effects and interactions of medications and supplements (e.g., narcotics, anticoagulants, psychotropics), including over-the-counter (OTC) (e.g., antihistamines, cold and cough medications), that could negatively affect his/her driving
  - that fatigue, lack of sleep, undesirable diet, emotional conditions, stress, and other illnesses can affect

## RESPIRATORY

safe driving

- Inform the driver of the rationale for delaying or potentially disqualifying certification, which may include: ( IIA3):
  - chronic pulmonary exacerbation (e.g., emphysema, fibrosis)
  - sleep disorder (e.g., obstructive sleep apnea)

### **Risk Assessment**

- Consider for documented conditions the rate of progression, degree of control, and likelihood of sudden incapacitation (e.g., cardiovascular, neurological, respiratory, musculoskeletal)

### **Certification Outcomes and Intervals**

- Disqualify a driver when evidence shows a condition exists that will likely interfere with the safe operation of a CMV, which may include sufficient supporting opinions and information from specialists
- Certify a driver for an appropriate interval
- Advise a driver certified with a limited interval to return for recertification with the appropriate documentation for his or her condition

### **FMCSA Content Sources**

At the completion of training, the medical examiner should be able to use the following FMCSA regulations and guidance resources to correctly perform driver respiratory assessment:

- 49 CFR 391.41(b)(5) Physical qualifications for drivers
- 49 CFR 391.43(f) Lungs Medical examination; certificate of physical qualification
- Medical Examination Report form and Advisory Criteria
- Medical examiner's certificate
- FMCSA Medical Examiner Handbook, Respiratory (b)(5)

# RESPIRATORY

Topic 1: Background, rationale, mission, and goals of the FMCSA medical examiner's role in reducing crashes, injuries, and fatalities involving commercial motor vehicles (CMVs).

## Global Objectives

### Regulation and Guidance

- Recall that regulations or standards are laws and must be followed.
- Recall that medical examiners are responsible for determining if the CMV driver is medically qualified and safe to drive under the Federal Motor Carrier Safety Regulations (FMCSRs).
- Recognize that guidelines are intended as best practices for medical examiners.
- Give an example of documenting the reasons for a certification decision that does not conform with guidelines.

## Respiratory Standards Objectives

### Driver Physical Qualification Requirements

- Recall that respiratory qualification requirements are cited in 49 CFR 391.41 (b)(5).
- Discuss how use of respiratory parameters to determine driver certification status differs from parameters for vision or hearing.

### Medical Examiner Responsibilities

- Recall that the respiratory parameters specified in the regulation must be determined on a case-by-case evaluation of the risk of respiratory dysfunction that can:
  - cause gradual or sudden incapacitation of the driver.
  - interfere with the ability of the driver to safely operate a CMV.
- Recall that abnormal finds on physical exam may require further testing, such as pulmonary tests and/or chest x-ray.

## Medical Guidance Objectives

### Medical Examiner Responsibilities

- Recall that medical guidance for respiratory conditions includes:
  - Minimum pulmonary function testing parameters.
  - Additional testing recommendation for obstructive and restrictive conditions.

### Sleep Disorders

- Review current FMCSA recommendations for sleep disorders that have completed the public notice and comment process, including:
  - Summarized in online Medical Examiner Handbook, Chronic Sleep Disorders.
  - Identify sleep disorders as a condition under current review by FMCSA.

**Note:** It is important that the training clearly distinguishes between what constitutes current FMCSA medical guidance and recommendations by advisory panels, boards, and other stakeholders as to what FMCSA guidance should be. Remember that Medical Examiner Certification Test items use current guidelines, but medical examiners may choose to use best practices or other guidelines. Documentation should highlight the differences between the guideline used and the current guideline, as well as the rationale for the choice made.

## RESPIRATORY



# RESPIRATORY

Topic 2: Familiarization with the responsibilities and work environment of commercial motor vehicle (CMV) operation.

## Global Objectives

### Job of CMV Driving

- Recall that the job of CMV driving demands that the driver:
  - Remain alert.
  - Perform tasks requiring heavy exertion.
- Recall that driving is a repetitive and often times a monotonous task.
- Recall that drivers may be required to respond under emergency conditions.

## Respiratory Standards Objectives

### Respiratory Dysfunction Safety Implications

- Describe symptoms of respiratory dysfunction that might interfere with safe driving.
- Discuss the impact of emergency driving conditions in the presence of slight impairment in respiratory function on the ability to drive safely.
- Discuss the safety implications for the driver with:
  - Chronic acute respiratory failure.
  - Acute respiratory failure.

### Sleep Disorders Safety Implications

- Recall that excessive daytime sleepiness is the primary risk concern when a driver has sleep disorder.
- Discuss other risk concerns associated with sleep disorders.

### Environmental Factors

- Discuss environmental factors that can contribute to:
  - Respiratory dysfunction and ability to drive safely.
  - Chronic sleep disorders and excessive daytime sleepiness that interfere with the ability to drive safely.
- Discuss environmental factors that can complicate the treatment of:
  - Respiratory dysfunction.
  - Chronic sleep disorders.
- Discuss possible consequences of introducing supplemental oxygen, as a factor, in a CMV crash.

# RESPIRATORY

Topic 3: Obtaining, reviewing, and documenting driver medical history, including prescription and over-the-counter (OTC) medications.

## Global Objectives

### Health History

- Recall that history is completed by the driver.
- Identify the health history questions that are specific to respiratory function, including:
  - Lung disease, emphysema, asthma, chronic bronchitis.
  - Sleep disorders, pauses in breathing while asleep, daytime sleepiness, loud snoring.
- Explain how the example findings affect the physical examination and/or certification outcome.

## Respiratory Standard Objectives

### Obtaining and Reviewing (Respiratory Conditions)

- Give examples of medical examiner historical review inquiry that may indicate the presence of respiratory dysfunction.
- Give examples of medical examiner inquiries about effectiveness of medications used to treat respiratory conditions.
- Discuss side effects that might interfere with safe driving.
- Discuss the importance of discussion regarding the speed of onset of symptoms.

### Obtaining and Reviewing (Chronic Sleep Disorders)

- Discuss the reliability of self-assessed day-time sleepiness.
- Give examples of other historical information that would assist the medical examiner in assessing driver medical fitness for duty.
- Give examples of other historical information that would assist the medical examiner in assessing effectiveness of sleep disorder treatment.

# RESPIRATORY

Topic 4: Performing, reviewing, and documenting driver's medical examination.

## Global Objectives

### Physical Examination

- Recall that Medical Examination Report form Lungs and Chest, Body System "check for" list has the minimum respiratory examination requirements.
- Describe the correct way to comment on abnormal findings, according to the instructions in Section 7, Physical Examination, of the Medical Examination Report form.
- Recall that the effect of an abnormality on driver ability to operate a commercial motor vehicle safely should be noted.
- Recall that abnormal findings should be discussed with the driver, and the discussion should be documented.

## Respiratory Standards Objectives

### Examination of Lungs and Chest

- Discuss the lungs and chest findings that the medical examiner should further evaluate.
- Discuss physical evaluation of the driver having:
  - Allergies and asthma-related diseases.
  - Obstructive/restrictive disorders.
  - Infectious disease.
  - Non-infectious disease.
  - Secondary respiratory disorders.
- Recall findings for which a detailed pulmonary function evaluation or consultation with a pulmonologist is recommended.

### Documenting Examination of Lungs and Chest

Discuss reporting organic disease, including how the condition affects driving ability, and whether or not compensation is adequate for meeting physical qualification requirements.

### Reviewing BP

- Recall that medical guidance for the same stage of hypertension may be different, depending upon whether the medical examiner has driver records from previous, consecutive driver physical examinations, or if this is the first time the medical examiner has performed the physical examination.

# RESPIRATORY

Topic 5: Performing, obtaining, and documenting additional diagnostic tests or medical opinion from a medical specialist or treating physician.

## Global Objectives

### Ancillary Tests and Evaluation

- Recall that additional tests and/or evaluation should be obtained when examination findings are inconclusive for determining medical fitness for duty.
- Recall that additional test results and evaluation used to assess medical fitness for duty must be included with the Medical Examination Report form documentation.
- Differentiate between the role of the medical examiner to determine medical fitness for duty and the role of the primary care provider to diagnose and treat the condition.

### Performing or Obtaining Additional Tests

- Recall that pulmonary function tests (PFT) are not required unless indicated by history and/or physical examination.
- Review recommendations for:
  - Pulse oximetry (pO<sub>2</sub>).
  - Arterial blood gas (ABG).
  - Chest x-ray.
- Review test results that indicate chronic respiratory failure.
- Recall that chronic respiratory failure predisposes driver to acute respiratory failure.

### Obtaining Additional Evaluations

- Give examples of findings that indicate evaluation by:
  - Primary care provider.
  - Specialist in pulmonary function.

### Medical Guidance for Respiratory Conditions

- Review medical guidance for allergies and asthma-related diseases.
- Discuss medical guidance for chronic obstructive pulmonary disease:
  - Review medical guidance for other non-infectious disorders.
- Review medical guidance for infectious disorders, including:
  - Acute infectious diseases.
  - Pulmonary tuberculosis.
  - Atypical tuberculosis.
- Review medical guidance for secondary respiratory disorders.
- Discuss medical guidance for chronic sleep disorders.

# RESPIRATORY

Topic 6: Informing and educating the driver about medications and non-disqualifying medical conditions that require remedial care.

## Global Objectives

### Discussion and Education

- Recall that the medical examiner has a responsibility to inform and educate the driver about use, effects, and/or side effects of medication that can interfere with safe driving.
- Discuss the importance of encouraging the driver with a non-disqualifying medical condition to seek appropriate remedial care that may prevent or delay future condition-related disqualification.

## Respiratory Standard Objectives

### Risk Factors for Respiratory Dysfunction

- Give example vignettes of discussion and/or educational advice a medical examiner might give to the driver who:
  - Smokes.
  - Is at risk for chronic obstructive pulmonary disease (COPD).
  - Is at risk for a sleep disorder.

### Medications

- Discuss risks associated with medication classes used in pulmonary/respiratory therapy, including:
  - Antihistaminics.
  - Sympathomimetic agents.
  - Bronchodilators, anti-inflammatory drugs, and antibiotics.

### Waiting Periods

- Recall the recommended waiting periods for obstructive sleep apnea (OSA) treatments, including:
  - Surgical.
  - Continuous positive airway pressure (CPAP).

# RESPIRATORY

Topic 7: Determining driver certification outcome and period for which certification should be valid.

## Global Ob

### Certification outcome

- Recall that medical examiner must determine certification status in accordance with FMCSA Physical qualification standards.
- Recall that only driver medical examiner certificate modifications that can be required are printed on the Medical Examination Report form status and the medical examiner's certificate.
- Discuss how medical guidance is used to help determine driver certification status.
- Recall that maximum certification period can not exceed 2 years.

## Respiratory Standard Objectives

### Certification of the Driver

- Discuss medical examiner responsibility to carefully evaluate each person on whom they perform a commercial motor vehicle driver physical examination, including:
  - Recall that respiratory function and its effects on driving have to be viewed in relation to the general health of the individual.
  - Recall that when the medical examiner is uncertain about the severity of the condition or prognosis, the decision for certification needs to be postponed until the additional necessary information is obtained .
- Review FMCSA general medical guidelines for certification of the driver with a respiratory dysfunction, including:
  - Has the driver completed any recommended waiting period?
  - Do test results meet minimum recommended guidelines?
  - Has the condition medically stabilized?
  - Does the driver tolerate medication and/or treatment?
- Recall that the maximum period for which a driver with a cardiovascular disease should be certified is 1 year.
- Recall recommendations for frequently seen medications and treatments that should be monitored during the certification period.

# RESPIRATORY

Topic 8: FMCSA reporting and documentation requirements.

## **Global Objectives**

### **Documentation**

- Demonstrate correct documentation of driver certification status on the Medical Examination Report form.
- Demonstrate correct completion of medical examiner's certificate.
- Recall that the only modifications that a medical examiner can impose with driver certification are those that are printed on the Medical Examination Report form and medical examiner's certificate.

## **Respiratory Standards Objectives**

### **Respiratory Evaluation and Tests**

- Recall that additional evaluation and testing obtained to determine medical fitness for duty must be included with the Medical Examination Report form.
- Give examples of additional respiratory evaluation and tests, including documentation of:
  - Rationale for disqualifying the driver.
  - Test results and corresponding medical guidelines.
  - Organic disease and whether or not compensation is sufficient to meet physical qualification requirements.

# RESPIRATORY

## Scenarios

The objective of the clinical scenario is to reinforce application of the FMCSA regulations and guidance in the clinical setting, to effectively perform the driver physical examination. Use of example cases are optional. When used, the scenario can be used as a whole or in part to develop learning strategies as vignettes, role plays, simulations, and group discussion. Remember that all FMCSA Medical Examiner Certification Test items assess knowledge acquired through training in the context of medical examiner performance of critical tasks.

The format used to present the medical facts for the scenarios is based on the data a medical examiner records on the Medical Examination Report form.

**Scenario 1: Disqualify — pending additional pulmonary function testing**

**Scenario 2: Disqualify — pending pulmonary testing**

**Scenario 3: Have FMCSA decide what to do**

## Medical Examination Report Form — Scenario 1 Mr. Barry Johnson

### Mr. Johnson—Recertification Examination

Sex: Male | Age:55 | Height: 72" | Weight: 260 lbs.

### Health History

Yes response(s): None

Medication(s): None

### Health History Comments

Mr. Johnson admits to a 40- year smoking history. He continues to smoke despite repeated efforts to quit; however, he has cut back to only one pack a day. He reports no loss of breath, except with exertion. He has a productive cough in the morning and a chronic lingering cough throughout the day.

### Vision

Uncorrected Acuity: Rt. Eye: 20/25 Lt. Eye: 20/20 Both: 20/30

Horizontal Field of Vision: Rt. Eye: 80° Lt. Eye: 80°

Meets standard only when wearing: corrective lenses? No

Color: Can distinguish red, green, and amber colors? Yes

Monocular Vision? No

### Hearing

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: N/A Lt. Ear: N/A

Audiometric test hearing loss average: Rt. Ear: 26dB Lt. Ear: 30dB



## RESPIRATORY

### Blood Pressure/Pulse

BP-138/88 P-92 & Regular

PFT results: Pulmonary function (forced expiratory volume in the first second of expiration (FEV<sub>1</sub>))

64% of predicted, FEV<sub>1</sub>/forced vital capacity (FVC) ratio 66%

### Urinalysis

SP. GR.: 1.030 | Protein: Neg: | Blood: Neg | Glucose: Neg

### Physical Examination Comments

6. Barrel chest appearance. Auscultation of the lungs reveals expiratory wheezes and rales over the lower lobes of both lungs, with decreased diaphragm excursion. He becomes mildly out of breath when performing muscle testing and musculoskeletal examination. No clubbing or cyanosis noted.

The rest of the physical examination was unremarkable.

### Stems and Keys

#### Best Outcome

##### Stem

What is the certification decision in this scenario?

##### Key

Disqualify - pending pulmonary function testing.

Physiological impairment is potentially present in many lung disorders. Therefore, simple pulmonary function testing should be performed for CMV drivers who have any of the following indicators:

- A history of any specific lung disease.
- Symptoms of shortness of breath, cough, chest tightness, or wheezing.
- Cigarette smoking in applicants aged 35 or older.

### Medical Guidance Recall

##### Stem

What three tests does medical guidance recommend for initial pulmonary function testing?

##### Key

1. Forced expiratory volume in 1 second (FEV<sub>1</sub>).
2. Forced vital capacity (FVC).
3. FEV<sub>1</sub>/FVC ratio.

### Medical Guidance Application

##### Stem

## RESPIRATORY

PFT results: FEV1 64% of predicted, FEV1/FVC ratio 66%. According to medical guidance, what do Mr. Johnson's PFT test results indicate doing next?

### Key

Medical guidance says that additional testing is indicated if the FEV1 is less than 65% of the predicted value, and if the FEV1/FVC ratio is less than 65%. These individuals should have oximetry or an arterial blood gas analysis.

Mr. Johnson's results are borderline, with FEV just below and FEV/FVC just above. FMCSA also encourages erring on the side of public safety. Additional pulmonary testing is a reasonable course of action.

### Stem

The medical examiner obtains the following information: Pulse oximetry O2 saturation - 90%; arterial blood gas (ABG) - PaO2 [60 mm Hg], PaCO2 [42 mm Hg]. What do Mr. Johnson's test results indicate?

### Key

The pulse oximetry O2 saturation was less than 92% which indicated obtaining an ABG. His PaCO2 of 42 mm Hg meets recommended standards. His PaO2 of 60 mm Hg meets recommended standards when the altitude is over 5,000 feet but not at altitudes less than 5,000 feet. The tests were run at altitudes less than 5,000 feet. He should be disqualified.

### Stem

Would the medical examiner's determination be affected by the information that Mr. Johnson had been long-haul driving in the mountains of the West for the 3 immediately weeks prior to having the ABG?

### Key

Changes in altitude can affect a CMV driver's readings, favoring the driver if coming from high altitudes and being examined in lower altitudes (and less favorable if reversed). The medical examiner may suggest Mr. Johnson report relevant trip history involving time spent in altitudes above and below 5,000 feet at the specialist's evaluation.

## Medical Examination Report Form — Scenario 2 Mr. Donald Katz

### Mr. Katz—Recertification Examination

Sex: Male | Age: 65 | Height: 70" | Weight: 175 lbs.

### Health History

Yes response(s): High blood pressure, shortness of breath, lung disease, emphysema, asthma, chronic bronchitis.

Medication(s): tiotropium bromide (Spiriva) 1 cap qd (daily), using inhaler device salmeterol/fluticasone propionate (Advair) 500/50 bid (twice daily), and occasional albuterol (Proventil, Ventolin) inhaler.

### Health History Comments

Trained assistive staff noted that walking to examination room caused driver to "huff and puff." Driver states that he has been smoking for 50 years, two packs per day, but after last primary care provider

## RESPIRATORY

physical examination has cut down to a half pack per day. At the primary care provider examination (1 year ago), Mr. Katz was diagnosed with "borderline" hypertension, COPD, and cor pulmonale secondary to COPD. Mr. Katz denies any side effects from medication. States that he uses albuterol occasionally; only once or twice a day. Driver provided copy of primary care provider medical records:

Echocardiogram (2 months old) showed mild right ventricular hypertrophy (RVH), mild pulmonary hypertension, but otherwise normal.

Chest x-ray (6 months old) revealed findings consistent with COPD.

Pulmonary function tests (1 year old) showed moderate obstruction consistent with COPD.

### Vision

Corrected Acuity: Rt. Eye: 20/25 Lt. Eye: 20/20 Both: 20/20

Horizontal Field of Vision: Rt. Eye: 80° Lt. Eye: 80

Meets standard only when wearing: corrective lenses? Yes

Color: Can distinguish red green and amber colors? Yes

Monocular Vision? No

### Hearing

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: 5 Feet Lt. Ear: 5 Feet

Audiometric test hearing loss average: Rt. Ear: N/A Lt. Ear: N/A

### Blood Pressure/Pulse

BP-138/86 P-88 & Regular

### Urinalysis

SP. GR.: 1.030 | Protein: Neg: | Blood: Neg | Glucose: Neg

Pulse Oximetry: O<sub>2</sub> saturation on room air was 87%.

### Physical Examination Comments

1. Mr. Katz appears older than his stated age, with a red and slightly puffy face.

5. Grade II/VI, S4.

6. Shortness of breath resulting from mild exertion during musculoskeletal examination.

7. Questionable ascites.

10. Mild pretibial edema.

The rest of the physical examination was unremarkable.

### Stems and Keys

# RESPIRATORY

## Best Outcome

### Stem

What is the certification decision in this scenario?

### Key

Disqualify pending pulmonary testing. The O<sub>2</sub> saturation of 87% indicates the driver is hypoxic. Even though the driver states that he has no symptoms, performing the mild activity required for the medical examination causes him to be short of breath.

Medical Advisory Criteria for 49 CFR 391.41(b)(5) says, "If the medical examiner detects a respiratory dysfunction, that in any way is likely to interfere with the driver's ability to safely control and drive a CMV, the driver must be referred to a specialist for further evaluation and therapy."

## Best Practice Examination

### Stem

Give an example of something the medical examiner could have done during the examination to confirm the symptoms reported by the staff members. Discuss why the examiner wants to observe staff-reported symptoms personally?

### Key

The medical examiner could have had the driver jog in place for a short time, repeat stepping up and down on a step stool, or engage in any mild activity that duplicates the stress level of walking to the examination room.

The medical examiner signs the Medical Examination Report form and is accountable for accuracy. When an examiner has to disqualify a driver, a good practice is to personally verify any staff-reported medical evidence that contributes to the decision. Then there is no question of a decision being made on what a driver may consider to be inadequate evaluation.

## Best Practice Additional Examination

### Stem

As a courtesy to the treating provider, when requesting a test and/or evaluation for a CMV driver qualification, the medical examiner includes relevant FMCSA recommendations. What additional information, if any, might the medical examiner include based on this scenario?

### Key

Inform the consulting provider that Federal guidance CMV driver physical qualification examinations include not certifying for CMV driving any individual with one or more of the following:

PaCO<sub>2</sub> greater than 45 mmHg.

Diagnosis of pulmonary hypertension, with or without cor pulmonale, accompanied by symptoms of dyspnea, dizziness, or hypotension.

Paroxysms of cough leading to cough syncope.

## RESPIRATORY

### **Mr. Lopez—Recertification Examination — 2 months left before current 1-year certificate expires**

Sex: Male | Age: 50 | Height: 70" | Weight: 240 lbs.

#### **Health History**

Yes response(s): Any illness or injury in the last 5 years: sleep disorders; pauses in breathing while asleep; daytime sleepiness; loud snoring; regular, frequent alcohol use.

Medication(s): None, uses CPAP nightly.

#### **Health History Comments**

Mr. Lopez presents for recertification with a medical certificate that does not expire for 3 more months. He states he had pneumonia 2 years ago and was diagnosed with sleep apnea at that time. He has been using a CPAP since that time and "wakes rested." He has not been to a personal care provider since the health problems 2 year ago. He drinks maybe two beers during the weekends he has off.

#### **Vision**

Corrected Acuity: Rt. Eye: 20/20 Lt. Eye: 20/20 Both: 20/20

Horizontal Field of Vision: Rt. Eye: 80° Lt. Eye: 90°

Meets standard only when wearing: corrective lenses? Yes

Color: Can distinguish red, green, and amber colors? Yes

Monocular Vision? No

#### **Hearing**

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: 5 feet Lt. Ear: 5 feet

Audiometric test hearing loss average: Rt. Ear: N/A Lt. Ear: N/A

#### **Blood Pressure/Pulse**

BP-138/88 P-84 & Regular

#### **Urinalysis**

SP. GR.: 1.030 | Protein: Trace | Blood: Neg | Glucose: Neg

#### **Physical Examination Comments**

1. Obese.

9. Medium-sized ventral hernia that is easily reducible.

Rest of physical examination is unremarkable.

#### **Stems and Keys**

## RESPIRATORY

### **Best Outcome**

#### **Stem**

What is the certification decision in this scenario?

#### **Key**

Certify for 2 months (length of time remaining on current certificate). Schedule follow-up anytime prior to expiration with documentation from healthcare provider treating sleep apnea. Instruct the driver to have sleep disorder evaluated by the treating provider and bring a copy of the report to the recertification examination.

With the implementation of the National Registry, which requires medical examiners to report the outcome of every CMV driver physical examination, a certification decision must be made.

The examination did not reveal any indicators that Mr. Lopez is at risk for gradual or sudden incapacitation. Medical guidance does say that a driver diagnosed with a sleep disorder should be monitored. This decision allows the driver to continue to drive while obtaining sleep disorder evaluation.

### **Follow Up or Recertification Examination**

#### **Stem**

What options are available if Mr. Lopez returns to the same medical examiner for the recertification examination?

#### **Key**

Assuming that the treating provider report indicates that Mr. Lopez is medically fit for duty, the medical examiner could:

Use the date of the initial examination to certify Mr. Lopez, if not performing a complete examination.

# RESPIRATORY

Perform a complete examination and certify Mr. Lopez from the follow-up date.

**Note:** If Mr. Lopez brought the sleep evaluation record to a new medical examiner, that examiner would have to complete a full examination before determining driver certification status.

## Driver Education and Advice

### Stem

Give examples of driver education and advice that may be appropriate for Mr. Lopez.

### Key

Explain to the driver that medical guidance recommends:

Annual objective sleep test verifying that current CPAP treatment is effectively controlling his sleep apnea.  
Annual recertification.  
Continued use of CPAP, as directed, and verification that his equipment is operating correctly.

Advise driver that losing weight and increasing exercise may be beneficial.

## Self-checks

Self-checks are a stem and key example resource for developing knowledge mastery learning strategies, such as discussion, drill-and-practice, and pre- and post-topic comprehension assessment interactions. Use of self-check content is optional.

## Stems and Keys

## Respiratory Medical Guidance Recall

### Stem

In addition to pulmonary function tests, give examples of other signs or symptoms a medical examiner uses to decide if a pulmonary/respiratory disease disqualifies a driver under FMCSA regulations?

### Key

Any pulmonary process that is likely to interfere with driver ability to operate a commercial motor vehicle (CMV) safely, either due to history or clinical diagnosis, is medically disqualifying. Examples include:

Bronchiectasis with hemoptysis or with episodes of life-threatening pulmonary infection. Chronic pulmonary tuberculosis (TB).

Chronic obstructive pulmonary disease (COPD), with a cough severe enough to induce syncope.

Asthma that requires frequent hospitalizations or that shows severe enough pulmonary dysfunction to put the driver at risk for loss of awareness or attention.

### Stem

What conditions must a driver with acute or chronic cor pulmonale meet to be certified to operate an interstate CMV?

### Key

To be qualified, the driver should meet a minimum arterial blood gas (PaO<sub>2</sub>) greater than 65 mm Hg. Drivers with acute (reversible) cor pulmonale may be certified after successful treatment, when they can meet the above criteria for qualification.

Treated or untreated patients with pulmonary hypertension or cor pulmonale who exhibit dyspnea at rest, dizziness, or hypotension (may be a side effect of medication) should not be qualified to drive.

## RESPIRATORY

### Stem

A driver states that she has exercise- induced asthma well controlled by using an albuterol (Proventil, Ventolin) inhaler before she does any aerobic activity. Her pulmonary function (forced expiratory volume in the first second of expiration (FEV<sub>1</sub>)) must be greater than \_\_\_\_\_ % of predicted FEV<sub>1</sub> to qualify.

### Key

Greater than 65% FEV<sub>1</sub> of predicted.

### Stem

A driver takes diphenhydramine (Benadryl), 25 mg, two or three times per day, to treat nasal congestion. Discuss what, if any, concerns this causes, and what a medical examiner might do in this example.

### Key

According to medical guidance, drivers should abstain from using any form of antihistamines, with known sedative side effects and narcotic-based antitussives, for the 12 hours prior to driving.

Medical examiners have concerns about side effects of which the driver may be unaware, yet still could be impairing safe operation of a CMV, such as decreased alertness, reaction time, and memory.

In this example, medical examiner discussion with the driver may include:

Informing driver of risks associated with using antihistamines within 12 hours of driving.

Advising the driver to consult with a primary care provider to evaluate the chronic congestion and obtaining treatment that does not interfere with safe driving.

## Respiratory Medical Guidance Analysis

### Stem

The examiner notices that the driver has marked that he has asthma and lists an albuterol [Proventil, Ventolin] inhaler among his medications. On questioning, the driver admits to using it several times a day, especially during the spring and fall; he admits that he has not seen his primary care physician in several years but is still getting frequent refills on his inhaler. The driver also admits that he has been hospitalized twice in the last 6 months for his asthma, ending up on a ventilator on the last visit.

Should the medical examiner certify the driver, and, if so, for how long?

### Key

Do not certify. The history clearly suggests that the asthma that the driver has requires frequent hospitalizations and has the potential for respiratory dysfunction that could impair the ability to operate a CMV safely. Appropriate advice to the driver includes recommending that the driver see his primary care physician or a pulmonologist who may be able to provide treatment to effectively control the asthma, such that the driver meets respiratory qualification requirements.

### Stem

A driver presents for examination with a history (last month) of a pneumothorax. The records provided by the driver indicate that the pneumothorax reduced the driver's forced vital capacity (FVC) to 58% of predicted forced vital capacity.

Can this driver be certified? If not, when can the driver be certified?

### Key

Do not certify. According to recommendations, this driver should not be certified until the medical examiner has verified that the recovery is complete, with x-rays, and the driver has a FVC greater than 65%.

### Stem

A driver presents for examination with a history (3 months ago) of a pneumothorax. The records provided by the driver



## RESPIRATORY

indicate that this is the second spontaneous pneumothorax on the same side. The driver's forced vital capacity (FVC) to 68% of predicted forced vital capacity is with no surgical intervention.

Can this driver be certified? If not, when can the driver be certified?

### **Key**

Do not certify. According to recommendations, this driver should not be considered medically qualified if no surgical procedure has been done to prevent recurrence.

## NEUROLOGICAL

# Training Provider Handbook: Neurological–Module Overview

### Goal

FMCSA certified medical examiners will assess driver neurologic function, determine both cognitive and physical medical fitness for duty, and document examination findings and effect on fitness for duty in accordance with the FMCSA physical qualification standards and policies.

### Competencies

Training should prepare the examiner to appropriately apply knowledge of cardiovascular standards and guidance to the performance of these tasks. Also, Medical Examiner Certification Test items directly assess these tasks.

#### Identification and History

- Identify, query, and note issues in a driver's medical record and/or health history as available, which may include:
  - neurologic disorders (e.g., loss of consciousness, seizures, stroke/transient ischemic attack (TIA), headaches/migraines, numbness/weakness)

#### Physical Examination and Evaluation

- Examine the driver's neurologic status and note:
  - impaired equilibrium, coordination or speech pattern (e.g., Romberg, finger-to-nose test) ( IB12a)
  - gait disorders sensory or positional abnormalities
  - tremor radicular signs reflexes (e.g., asymmetric deep-tendon, normal/abnormal patellar, and Babinski)

#### Diagnostic Tests and/or Referrals

- Refer a driver who exhibits evidence of any of the following disorders for follow-up care and evaluation by an appropriate specialist or primary care provider :
  - musculoskeletal (e.g., arthritis, neuromuscular disease)
  - neurologic (e.g., seizures)

#### Documentation of Ancillary Information

- Integrate a specialist's evaluation with other information about the driver

#### Health Education Counseling

- Inform the driver of the rationale for delaying or potentially disqualifying certification, which may include
  - musculoskeletal challenges (e.g., arthritis, neuromuscular disease)
  - a neurologic event (e.g., seizures, stroke, TIA)

#### Risk Assessment

- For documented conditions, consider the rate of progression, degree of control, and likelihood of sudden incapacitation (e.g., cardiovascular, neurologic, respiratory, musculoskeletal)

#### Certification Outcomes and Intervals

- Apply non-discretionary certification standards to disqualify a driver with a history of epilepsy
- Disqualify a driver when evidence shows a condition exists that will likely interfere with the safe operation of a commercial motor vehicle (CMV), which may include sufficient supporting opinions and information from specialists

### FMCSA Content Sources

## NEUROLOGICAL

At the completion of training, the medical examiner should be able to use the following FMCSA regulations and guidance resources to correctly perform driver neurological assessment:

- 49 CFR 391.41(b)(7)(8)(9) Physical qualifications for drivers
- 49 CFR 391.43(f) Neurological Medical examination; certificate of physical qualification
- Medical Examination Report form and Advisory Criteria
- Medical examiner's certificate
- FMCSA Medical Examiner Handbook, Neurological (b)(7)(8)(9)

# NEUROLOGICAL

Topic 1: Background, rationale, mission, and goals of the FMCSA medical examiner's role in reducing crashes, injuries, and fatalities involving commercial motor vehicles (CMVs).

## Global Objectives

### Regulation and Guidance

- Recall that regulations or standards are laws and must be followed.
- Recall that medical examiners are responsible for determining if the CMV driver is medically qualified and safe to drive under the Federal Motor Carrier Safety Regulations (FMCSRs).
- Recognize that guidelines are intended as best practices for medical examiners.
- Give an example of documenting the reasons for a certification decision that does not conform with guidelines.

## Neurological Standards Objectives

### Driver Physical Qualification Requirements

- Recall that neuromuscular qualification requirements are cited in 49 CFR 391.41 (b)(7).
- Recall that qualification requirements for drivers with a history of clinical diagnosis of epilepsy and related conditions are cited in 49 CFR 391.41 (b)(8).
- Recall that qualification requirements for other neurological conditions are cited in 49 CFR 391.41 (b)(9).
- Review how the criteria in 49 CFR 391.41 (b)(8) are different from the criteria in the other two standards addressing neurological conditions.

### Medical Examiner Responsibilities

- Identify the additional neurological examination parameters cited in 49 CFR 391.43 (f) Neurological addressing:
  - Function.
  - Abnormalities.
  - Evaluation criteria.
  - Monitoring.

### Instructions to Medical Examiner

- Discuss advisory instruction for the examination of the driver with a neuromuscular condition, including: Signs and symptoms caused by functional disorders that interfere with safe driving.
  - Nature and severity of the condition (such as sensory loss or loss of strength).
  - Degree of limitation present (such as range of motion).
  - Likelihood of progressive limitation (not always present initially but may manifest itself over time).
  - Likelihood of gradual or sudden incapacitation.
- Discuss advisory instruction for the examination of the driver with a seizure disorder, including:
  - Three "cannot be qualified" descriptions.
  - Seizure characteristics that inform the certification decision.

# NEUROLOGICAL

Topic 2: Familiarization with the responsibilities and work environment of commercial motor vehicle (CMV) operation.

## **Global Objectives**

### **Job of Commercial Driving**

- Describe the safety implications of CMV driving for the driver and the public.
- Give an example of how work environment impacts the ability of the driver to operate a CMV safely.

## **Neurological Standards Objectives**

### **Neurological Safety Implications**

- Recall the cognitive demands of the job of CMV driving, including:
  - Sustained vigilance and attention.
  - Quick reactions.
  - Communication.
  - Appropriate behavior.
- Discuss physical demands of the job of CMV driving that can be affected by neurological conditions.
- Discuss the safety implications of medication used to treat neurological disorders.

# NEUROLOGICAL

Topic 3: Obtaining, reviewing, and documenting driver medical history, including prescription and over-the-counter (OTC) medications.

## Global Objectives

### Health History

- Recall that history is completed by the driver.
- Identify the health history questions that are specific to the neurological system.
- Give examples of neurological historical findings.
- Explain how the example findings affect the physical examination and/or certification outcome.

## Neurological Standard Objectives

### Obtaining and Reviewing

- Discuss the importance of having the driver indicate onset date, diagnosis, treating provider's name and address, and any current limitation for neurological conditions.
- Recall that many of the neurological recommendations include waiting periods.
- Discuss general neurological assessment of the CMV driver during health history review.
- Recall that FMCSA medical guidance distinguishes between:
  - Single unprovoked seizure.
  - Epilepsy (two or more unprovoked seizures).
  - Childhood febrile seizures.
- Review medical guidance for medications used to treat neurological conditions, including:
  - Antiseizure or anticonvulsant medication.
  - Anticoagulant medication.

### Documenting

- Review minimum health history documentation for a driver with a history of a disqualifying neurological condition.

# NEUROLOGICAL

Topic 4: Performing, reviewing, and documenting the driver medical examination.

## Global Objectives

### Physical Examination

- Recall that the Medical Examination Report form Body System "Check For" list has the minimum neurological system examination requirements.
- Describe the correct way to comment on abnormal findings according to the instructions in Section 7, Physical Examination, of the Medical Examination Report form.
- Recall that the affect of an abnormality on the ability of the driver to operate a CMV safely should be noted.
- Recall that abnormal findings should be discussed with the driver and the discussion documented.

## Neurological Standards Objectives

### Examination of the Neurological System

- Discuss the neurological "Check For" list, including such considerations as:
  - Is presence of a neurological sign or symptom disqualifying?
  - Is treatment disqualifying?
  - Does condition or treatment affect ability to drive?
  - What finding would indicate a need for additional testing and/or evaluation?
- Review other body system abnormalities that may indicate a need for additional neurological testing and/or evaluation?

# NEUROLOGICAL

Topic 5: Performing, obtaining, and documenting additional diagnostic tests or medical opinion from a medical specialist or treating physician.

## Global Objectives

### Ancillary Tests and Evaluation

- Recall that additional tests and/or evaluation should be obtained when examination findings are inconclusive for determining medical fitness for duty.
- Recall that additional test results and evaluation used to assess medical fitness for duty must be included with the Medical Examination Report form.
- Differentiate between the role of the medical examiner to determine medical fitness for duty and the role of the primary care provider to diagnose and treat the condition.

## Neurological Guidance Objectives

### Additional Evaluation Considerations

- Recall that FMCSA medical guidance recommends that diagnosis and evaluation of neurological conditions be performed by an appropriate specialist, usually a neurologist or neurosurgeon.
- Recall the recommended considerations for case-by-case determination of neurological medical fitness for duty, including:
  - Type and degree of difficulty, which can be mental and/or physical.
  - Likelihood of recurrence and/or complications.

### Medical Guidance for Neurological Conditions

- Review general guidelines for waiting periods, including:
  - Start dates.
  - Reasons to restart.
  - Length of waiting period.
  - Conditions of waiting period, e.g., seizure free, off anticonvulsant medication.
- Discuss medical guidelines for static neurological conditions and treatments, including:
  - Transient ischemic attack (TIA).
  - Embolic or thrombotic stroke.
  - Intracerebral or subarachnoid hemorrhage.
  - Traumatic brain injury (TBI).
- Discuss medical guidelines for infections of the central nervous system.
- Discuss medical guidelines for progressive neurological conditions, including:
  - Dementia.
  - Central nervous system (CNS) tumors.
- Discuss medical guidelines for episodic neurological conditions, including:
  - Headaches.
  - Epilepsy and seizure disorders.



# NEUROLOGICAL

Topic 6: Informing and educating the driver about medications and non-disqualifying medical conditions that require remedial care.

## Global Objectives

### Discussion and Education

- Recall that the medical examiner has a responsibility to inform and educate the driver about use, effects, and/or side effects of medication that can interfere with safe driving.
- Discuss the importance of encouraging the driver with a non-disqualifying medical condition to seek appropriate remedial care that may prevent or delay future condition-related disqualification.

## Neurological Standards Objectives

### Non-disqualifying Neurological Conditions

- Give examples of drivers with non-disqualifying neurological conditions and discuss:
  - Why in the examples the drivers can be qualified.
  - What steps the drivers should be advised to take to correct or control conditions.
  - How the conditions affects the ability of the drivers to operate commercial motor vehicles.

### Neurological Agents

- Discuss possible side effects of neurological agents, and/or medications, that might interfere with safe driving.
- Give examples of medical examiner discussion and advice that demonstrates the importance of relating information to driving ability and driver certification.

### Waiting Periods

- Recall that a driver may need to complete a waiting period before consideration for certification and explanation should include:
  - The conditions of the waiting period (e.g., time frame, symptom free).
  - Identification of what would cause a waiting period to restart.

# NEUROLOGICAL

Topic 7: Determining driver certification outcome and period for which certification should be valid.

## Global Objectives

### Certification outcome

- Recall that medical examiner must determine certification status in accordance with FMCSA Physical qualification standards.
- Recall that only driver medical examiner certificate modifications that can be required are printed on the Medical Examination Report form status and the medical examiner's certificate.
- Discuss how medical guidance is used to help determine driver certification status. Recall that maximum certification period can not exceed 2 years.

### Neurological Standard Objectives

- Review FMCSA general medical guidelines for certification of the driver who has met waiting period conditions for a neurological condition, including having a neurological examination that finds no neurological residuals sufficiently severe to interfere with:
  - Cognitive abilities.
  - Judgment.
  - Attention.
  - Concentration.
  - Vision.
  - Physical strength.
  - Agility.
  - Reaction time.
- Recall that the maximum period for which a driver with a neurological condition should be certified is 1 year.

### Do Not Certify the Driver

- Recall that medical history and current clinical diagnosis of epilepsy are each, by regulation, disqualifying.
- Review neurological diagnoses that according to medical guidance should be disqualifying, including:
  - Severe traumatic brain injury.
  - Arteriovenous malformation/aneurysm that has not been surgically repaired.
  - Dementia.
  - Parkinsonism.
  - Iatrogenic Parkinsonism.
  - Cerebellar ataxia of any etiology.
  - Frequent or severe headaches that interfere with safe driving.

# NEUROLOGICAL

Topic 8: FMCSA reporting and documentation requirements.

## Global Objectives

### Documentation

- Demonstrate correct documentation of driver certification status on the Medical Examination Report form.
- Demonstrate correct completion of medical examiner's certificate.
- Recall that the only modifications that a medical examiner can impose with driver certification are those that are printed on the Medical Examination Report form and medical examiner's certificate.

## Neurological Standards Objectives

### Neurological Documentation

- Recall that additional neurological evaluation and testing obtained to determine medical fitness for duty must be included with the Medical Examination Report form.
- Give an example of documenting the decision to certify a driver with a neurological condition for 1 year.
- Give an example of documenting the discussion with a driver who has not completed the recommended waiting period. Consider the impact when the recommended waiting period is:
  - 1 year.
  - 2 years.
  - 5 years.
  - 10 years.
  - Based on risk of recurrence of primary condition.

# NEUROLOGICAL

## Self-checks

Self-checks are a stem and key example resource for developing knowledge mastery learning strategies, such as discussion, drill-and-practice, and pre- and post-topic comprehension assessment interactions. Use of self-check content is optional.

## Stems and Keys

### Neurological Regulation Recall

#### Stem

According to regulation, for what neurological condition is medically disqualifying for the interstate CMV driver certification?

#### Key

Epilepsy.

### Neurological Medical Guidance Recall

#### Stem

According to medical guidance, episodic neurological conditions that are disqualifying include what?

#### Key

Episodic neurological conditions that are disqualifying include:

- Extreme headaches—such as migraine, cluster headache, and neuralgia—that could affect the ability to remain cognizant of driving conditions and tasks.
- Vertigo.
- Diagnosed epilepsy treated with anticonvulsant medication.
- Narcolepsy.
- Sleep apnea, untreated.
- Idiopathic Central Nervous System Hypersomnolence and Primary Alveolar Hyperventilation Syndrome.
- Restless legs associated with disorder of excessive somnolence (RLS-DOES ) syndrome.

#### Stem

According to medical guidance, for which of the following diagnosed neurological conditions is the driver considered medically unqualified for driving?

- Febrile seizure.
- Dementia (severe).
- Dementia (metabolic).
- Transient ischemic attacks (within 1 year).
- Transient ischemic attacks (greater than 1 year ago).

#### Key

According to medical guidance, the driver with a diagnosis of dementia (severe) or transient ischemic attacks (under 1 year) should not be certified.

# NEUROLOGICAL

## Neurological Medical Guidance Application

### Stem

A driver is taking levodopa/carbidopa (Sinemet). Levodopa/carbidopa may cause the driver to be disqualified because it is used for the treatment of what?

### Key

Levodopa/carbidopa (Sinemet) is used for the treatment of Parkinson's disease and Parkinson's syndrome.

### Stem

According to medical guidance, what should the medical examiner do when the driver has a positive Babinski test?

### Key

Defer making a certification decision until the driver has been evaluated by a neurologist.

## Neurological Medical Guidance Analysis

### Stem

For transient ischemic attacks (TIA):

- Describe "no functional residual."
- Discuss future risk associated with TIA.
- Discuss recommended criteria for interstate commercial motor vehicle (CMV) driver certification.

### Key

Describe "No functional residual."

- Lack of impairment. The individual would have no residual neurological deficit, as determined by a neurologist, and no impairment is present that, in any way, affects the functional ability of the individual to drive a CMV safely.

Discuss future risk associated with TIA.

- TIAs are associated with a high rate of recurrence during the first year. A TIA is an important warning sign of a potentially severe stroke. The risk is high, whether the patient has had one or several attacks. One year after the TIA, the risk of recurrent cerebrovascular symptoms has declined to less than 5% per year.

Discuss recommended criteria for certification.

- There would be an automatic 1 -year CMV driving disqualification. After 1 year, the certification would depend on the interval history, general health, neurological examination, and compliance with the treatment program.

# NEUROLOGICAL

## Scenarios

The objective of the clinical scenario is to reinforce application of the FMCSA regulations and guidance in the clinical setting, to effectively perform the driver physical examination. Use of example cases are optional. When used, the scenario can be used as a whole or in part to develop learning strategies as vignettes, role plays, simulations, and group discussion. Remember that all FMCSA Medical Examiner Certification Test items assess knowledge acquired through training in the context of medical examiner performance of critical tasks.

The format used to present the medical facts for the scenarios is based on the data a medical examiner records on the Medical Examination Report form.

### Scenario 1: Driver with multiple sclerosis (MS)

### Scenario 2: Driver who had a stroke

## Medical Examination Report Form — Scenario 1 Ms. Gail Miller

### Ms. Miller—Recertification Examination

Sex: Female | Age:44 | Height: 64" | Weight: 145 lbs.

### Health History

Yes response(s): Muscular Disease.

Medication(s): interferon beta-1a (Avonex) 0.25mg SQ every other day .

### Health History Comments

Ms. Miller was diagnosed with multiple sclerosis 3 months ago. She denies any side effects from the medication. She also denies vision and sensory symptoms, loss of balance, or headaches. She occasionally has an itch or tingling in her left upper arm. She is right-handed.

She sees her neurologist monthly for follow-up and has brought copies of her neurology records:

- Magnetic resonance imaging reveals plaques that are suspicious for a demyelinating disease.
- Lumbar puncture was normal.
- Neurologist states that he is treating her for possible MS, and her neurological status has remained stable

### Vision

Uncorrected Acuity: Rt. Eye: 20/20 Lt. Eye: 20/20 Both: 20/20

Horizontal Field of Vision: Rt. Eye: 80° Lt. Eye: 80°

Meets standard only when wearing: corrective lenses? No

Color: Can distinguish red, green, and amber colors? Yes

Monocular Vision? No

### Hearing

Hearing aid used for test? No

Hearing aid required to meet standard? No

## NEUROLOGICAL

Whisper test: Rt. Ear: 5 Feet Lt. Ear: 5 Feet

Audiometric test hearing loss average: Rt. Ear: N/A Lt. Ear: N/A

### Blood Pressure/Pulse

BP-106/72 P-84 & Regular

### Urinalysis

SP. GR.: 1.020 | Protein: Neg | Blood: Neg | Glucose: Neg

### Physical Examination Comments

10. Upper extremity strength is 5/5 on the right and 4/5 on the left. Lower extremity strength is 5/5 on the right and 5/5 on the left.

12. Reflexes are 2 plus bilaterally. Her grip strength was within the normal range, and she did not display any balance deficiencies.

The rest of the physical examination was unremarkable. She scored 27/30 on the Folstein test (mini-mental).

### Stems and Keys

#### Best Outcome

##### Stem

What is the best determination outcome of this examination?

##### Key

Meets standards, but periodic monitoring required due to possible diagnosis (and progressive nature) of multiple sclerosis. 1-year certificate.

Ms. Miller's physical exam is essentially normal, other than left upper arm tingling and itching, which may represent early signs of MS. Her left arm strength is 4/5 (which is still good), with prehensile grasp and pincher ability adequate to perform commercial motor vehicle (CMV) driver manual hand tasks. She doesn't display all the typical symptoms of an advancing disease process. There do not appear to be any cognitive deficits present. Her diagnosis is "possible MS."

### FMCSA Physical Qualification Standards Recall

##### Stem

Ms. Miller's left arm has mild symptoms and is weaker than the right. At what level of left arm strength would the medical examiner certify Ms. Miller, using the provisions of alternate standard 49 CFR 391.49, which would require Ms. Miller to obtain a Skill Performance Evaluation (SPE) certificate?

##### Key

The medical examiner should not use the provisions of alternate standard 49 CFR 391.49 because multiple sclerosis is a progressive disease process, not a fixed deficit. The SPE certificate is only for individual fixed deficits (e.g., missing limb).

### Neurological Assessment Application

# NEUROLOGICAL

## Stem

Give examples of signs and symptoms resulting from the multiple sclerosis disease process that, at future driver physical examinations, would cause the medical examiner to disqualify Ms. Miller.

## Key

The medical examiner would not certify the driver if:

- Ms. Miller shows signs of progression that interfere with her ability to operate a CMV safely.
- Ms. Miller's neurologist identifies functionally significant neurologic signs and symptoms.
- She has an abnormal MRI and triple-evoked potential studies revealing new lesions, compared to prior evaluations made at least 1 year apart.
- She has a history of excessive fatigability or periodic fluctuations in motor performance, especially in relation to heat, physical and emotional stress, and infections.

## Medical Examination Report Form — Scenario 2 Mr. Paul Nelson

### Mr. Nelson—Recertification Examination

Sex: Male | Age: 57 | Height: 67" | Weight: 130 lbs.

### Health History

Yes response(s): Any illness or injury in the last 5 years?

Medication(s): None.

### Health History Comments

Mr. Nelson presents for "renewal of my DOT card." His last FMCSA medical certificate was issued almost 2 years ago. When asked about illness in last 5 years, he stated that, "I had a bleed in my head that caused a little stroke about 8 months ago." Upon further inquiry, you find that the he had a left-sided brain stroke (due to the "bleed" from an arteriovenous malformation (AVM)) resulting in a residual right-sided hemiplegia.

Mr. Nelson has not yet returned to work; apparently the neurosurgeon has not performed any surgical repair of the AVM at this point, and Mr. Nelson is not sure when or if a surgical procedure is to take place. He is still attending occupational and physical therapy.

### Vision

Corrected Acuity: Rt. Eye: 20/25 Lt. Eye: 20/25 Both: 20/25

Horizontal Field of Vision: Rt. Eye: 80° Lt. Eye: 80°

Meets standard only when wearing: corrective lenses? Yes

Color: Can distinguish red, green, and amber colors? Yes

Monocular Vision? No

### Hearing

Hearing aid used for test? No

Hearing aid required to meet standard? No



## NEUROLOGICAL

Whisper test: Rt. Ear: N/A Lt. Ear: N/A

Audiometric test hearing loss average: Rt. Ear: 33.3 Lt. Ear: 31.6

### **Blood Pressure/Pulse**

BP-127/80 P-80 & Regular.

### **Urinalysis**

SP. GR.: 1.030 | Protein: Neg | Blood: Neg | Glucose: Neg

### **Physical Examination Comments**

10. Walks with a limp; drags his right leg; and his right, upper extremity hangs downward, being flaccid with mild internal rotation at the shoulder.

12. He has motor and sensory deficits consistent with a right-sided hemiplegia. Some question as to his recall ability (short term) and attention span.

Rest of examination is unremarkable.

### **Stems and Keys**

#### **Best Outcome**

##### **Stem**

What is the best determination outcome of this examination?

##### **Key**

Mr. Nelson was disqualified because:

- He has had a ruptured AVM that has not been surgically treated to prevent additional bleeding.
- He has right-sided hemiplegia.
- He exhibits cognitive impairment during the history and physical examination.

#### **FMCSA Physical Qualification Standards Recall**

##### **Stem**

Once Mr. Nelson completes his occupational and physical therapy, will he be a candidate for alternative standard 49 CFR 391.49? What documentation would the therapist provide to indicate he is capable of performing the tasks of a CMV driver?

##### **Key**

No. The cognitive impairments and unrepaired AVM are both disqualifying regardless of compensatory measures for the hemiplegia. While documentation from the therapist would be useful to the medical examiner determining driver medical fitness for duty, the therapist does not determine if the driver is capable of performing the tasks of the CMV driver. The medical examiner makes that determination.

Related Discussion:

When a medical examiner determines that a driver is otherwise medically fit for duty except for meeting the physical

## NEUROLOGICAL

qualification requirements of 49 CFR 391.41(b)(1) or (b)(2), the medical examiner may stipulate that driver must obtain an SPE certificate, which is issued by the FMCSA.

# Training Provider Handbook: Musculoskeletal–Module Overview

## Goal

FMCSA certified medical examiners will assess driver musculoskeletal system, determine medical fitness for duty, and document examination findings and effect on fitness for duty in accordance with the FMCSA physical qualification standards and policies.

## Competencies

Training should prepare the examiner to appropriately apply knowledge of musculoskeletal standards and guidance to the performance of these tasks. Also, test items directly assess these tasks.

### Identification and History

- Identify, query, and note issues in a driver's medical record and/or health history as available, which may include: musculoskeletal disorders (e.g., amputations, arthritis, spinal surgery)

### Physical Examination and Evaluation

- Examine the driver's neck and note:
  - range of motion
- Examine the driver's spine and note:
  - surgical scars and deformities
  - tenderness and muscle spasm
  - loss in range of motion and painful motion
  - kyphosis, scoliosis, or other spinal deformities
- Examine the driver's extremities and note:
  - gait, mobility, and posture while bearing his/her weight; limping or signs of pain
  - loss, impairment, or use of orthosis
  - deformities, atrophy, weakness, paralysis, surgical scars
  - elbow and shoulder strength, function, and mobility
  - handgrip and prehension relative to requirements for controlling a steering wheel and gear shift
  - varicosities, skin abnormalities, cyanosis, clubbing, or edema
  - leg length discrepancy; lower extremity strength, motion, and function

### Diagnostic Tests and/or Referrals

- Refer a driver who exhibits evidence of any of the following disorders for follow-up care and evaluation by an appropriate specialist or primary care provider):
  - musculoskeletal (e.g., arthritis, neuromuscular disease)
- Refer a driver:
  - with limitations in extremity movement for an on-road performance evaluation and/or skill performance evaluation

### Documentation of Ancillary Information

- Integrate a specialist's evaluation with other information about the driver

- Include if available:
  - a current Skill Performance Evaluation (SPE) certificate

### **Health Education Counseling**

- Inform the driver of the rationale for delaying or potentially disqualifying certification, which may include
  - musculoskeletal challenges (e.g., arthritis, neuromuscular disease)

### **Risk Assessment**

- Consider a driver's ability to
  - couple and uncouple trailers from a tractor.
  - load or unload several thousand pounds of freight.
  - install and remove tire chains.
  - manipulate and secure tarpaulins that cover open trailers.
  - move one's own body through space while climbing ladders; bending, stooping, and crouching; entering and exiting the cab.
  - manipulate an oversized steering wheel.
  - shift through several gears using a manual transmission.
  - perform precision prehension and power grasping.
  - use arms, feet, and legs during CMV operation.
- Review SPE certificate cases:
  - identify terms, conditions, and limitations set forth in a driver's SPE certificate
  - ensure that an appropriate SPE certificate from FMCSA has been granted to a driver who has lost a foot, leg, hand, or arm
- For documented conditions, consider the rate of progression, degree of control, and likelihood of sudden incapacitation (e.g., cardiovascular, neurologic, respiratory, musculoskeletal)

### **Certification Outcomes and Intervals**

- Indicate certification status, which may require
  - a SPE certificate

### **FMCSA Content Sources**

At the completion of training, the medical examiner should be able to use the following FMCSA regulations and guidance resources to correctly perform driver musculoskeletal assessment:

- - 49 CFR 391.41(b)(1)(2)(7) Physical qualifications for drivers
  - 49 CFR 391.43(f) **Spine, musculoskeletal and (f) Extremities** Medical examination; certificate of physical qualification
  - 49 CFR 391.49 Alternative physical qualification standards for the loss or impairment of limbs
  - FMCSA Web site, SPE program
  - Medical Examination Report form and Advisory Criteria
  - Medical examiner's certificate
  - FMCSA Medical Examiner Handbook, Musculoskeletal (b)(1)(2)(7)

Topic 1: Background, rationale, mission, and goals of the FMCSA medical examiner's role in reducing crashes, injuries, and fatalities involving commercial motor vehicles (CMVs).

## **Global Objectives**

### **Regulation and Guidance**

- Recall that regulations or standards are laws and must be followed.
- Recall that medical examiners are responsible for determining if the CMV driver is medically qualified and safe to drive under the Federal Motor Carrier Safety Regulations (FMCSRs).
- Recognize that guidelines are intended as best practices for medical examiners.

## **Musculoskeletal Standards Objectives**

### **Driver Physical Qualification Requirements**

- Recall that musculoskeletal qualification requirements are cited in 49 CFR 391.41 (b)(1) and (2).
- Recall that the requirements cited in 49 CFR 391.49 are an alternate standard for 391.41(b)(1) and (2) and can be applied only in cases of fixed deficits of the extremities.
- Recall that the medical examiner determines, on a case-by-case basis, that an Skill Performance Evaluation (SPE) is required when the severity of the limb loss or impairment is less than the whole hand or foot.
- Recall that musculoskeletal qualification requirements cited in 49 CFR 391.41 (b)(7) address other musculoskeletal conditions.

### **Medical Examiner Responsibilities**

- Identify the additional musculoskeletal examination parameters cited in 49 CFR 391.43 (f) Spine, musculoskeletal and Extremities addressing:
  - Function.
  - Abnormalities.
  - Evaluation criteria.

### **Instructions to Medical Examiner**

- Discuss advisory instruction for the examination of the driver with a fixed deficit of an extremity who is otherwise medically fit for duty, including:
  - The medical examiner must check on the medical certificate that the driver is qualified only if accompanied by an SPE certificate.
  - The driver and the employing motor carrier are subject to appropriate penalty if the driver operates a CMV involved in interstate or foreign commerce without a current SPE certificate for the physical disability.
- Review advisory instruction for the examination of the driver with rheumatic, arthritic, orthopedic, or muscular disorder, including:
  - The risk for gradual or sudden incapacitation.
  - The list of examination considerations.

Topic 2: Familiarization with the responsibilities and work environment of commercial motor vehicle (CMV) operation.

## **Global Objectives**

### **Job of Commercial Driving**

- Describe the safety implications of the job of CMV driving for the driver and the public.
- Give an example of how work environment impacts the ability of the driver to operate a CMV safely.
- Discuss the physical demands of CMV driver tasks, including tasks other than driving.

## **Musculoskeletal Standards Objectives**

### **Musculoskeletal Safety Implications**

- Review CMV driver tasks that illustrate physical demands, including:
  - Full range of motion.
  - Grip strength.
  - Agility.
  - Strength.
  - Dexterity.
  - Repetitive motion.
  - Balance.
  - Coordination.
  - Flexibility.
- Discuss possible consequences when the driver has a physical impairment that interferes with the ability to perform one or more of the example tasks included in training.

Topic 3: Obtaining, reviewing, and documenting driver medical history, including prescription and over-the-counter (OTC) medications.

## **Global Objectives**

### **Health History**

- Recall that history is completed by the driver.
- Identify the health history questions that are specific to the musculoskeletal system.
- Give examples of musculoskeletal historical findings.
- Explain how the example findings affect the physical examination and/or certification outcome.

## **Musculoskeletal Standard Objectives**

### **Obtaining and Reviewing**

- Discuss historical review focusing on:
  - Ascertaining additional information to determine any current limitations associated with affirmative musculoskeletal history.
  - Assessing for risks associated with effect and side effect of prescription and OTC medications used to treat chronic muscle and/or joint pain.
- Recall that to be certified, the driver must meet minimum Federal physical qualification requirements.

Topic 4: Performing, reviewing, and documenting the driver medical examination.

**Global Objectives**

**Physical Examination**

- Recall that the Medical Examination Report form Body System "Check For" list has the minimum musculoskeletal system examination requirements.
- Describe the correct way to comment on abnormal findings according to the instructions in Section 7, Physical Examination, of the Medical Examination Report form.
- Recall that the affect of an abnormality on the ability of the driver to operate a CMV safely should be noted. Recall that abnormal findings should be discussed with the driver, and the discussion documented.

**Musculoskeletal Standards Objectives**

**Examination of the Musculoskeletal System**

- Give examples of how a medical examiner can modify a standard musculoskeletal examination to assess for physical ability to perform driving and non-driving tasks that require:
  - Prehension.
  - Grip strength.
  - Agility.
  - Strength.
  - Dexterity.
  - Repetitive motion.
  - Balance.
  - Coordination.
  - Flexibility.
  - Full range of motion.
- Review examination considerations when the driver has a diagnosed musculoskeletal condition, including:
  - Is the diagnosis rheumatic, arthritic, orthopedic or muscular?
  - Is the clinical course reversible, episodic, degenerative or fixed?



Topic 5: Performing, obtaining, and documenting additional diagnostic tests or medical opinion from a medical specialist or treating physician.

## **Global Objectives**

### **Ancillary Tests and Evaluation**

- Recall that additional tests and/or evaluation should be obtained when examination findings are inconclusive for determining medical fitness for duty.
- Recall that additional test results and evaluation used to assess medical fitness for duty must be included with the Medical Examination Report form.
- Differentiate between the role of the medical examiner to determine medical fitness for duty and the role of the primary care provider to diagnose and treat the condition.
- Recall that the medical examiner must require the otherwise medically fit for duty driver to obtain a Skill Performance Evaluation (SPE) certificate when the driver does not meet the requirements of 49 CFR 391.41(b)(1) or (b)(2).

## **Musculoskeletal Guidance Objectives**

### **Additional Evaluation Considerations**

- Recall that the medical examiner may require additional evaluation of a driver to adequately assess medical fitness for duty.
- Recall that FMCSA medical guidance recommends that diagnosis and evaluation of neuromuscular conditions be performed by an appropriate specialist, usually a neurologist or neurosurgeon.

### **Skill Performance Evaluation – 49 CFR 391.49**

- Review the role of the medical examiner in determining when the driver must obtain a SPE certificate.
- Compare and contrast the medical examination of the driver with a fixed deficit of an extremity before and after receiving a SPE certificate, including relevance of specialist documentation to physical examination.

Topic 6: Informing and educating the driver about medications and non-disqualifying medical conditions that require remedial care.

## **Global Objectives**

### **Discussion and Education**

- Recall that the medical examiner has a responsibility to inform and educate the driver about use, effects, and/or side effects of medication that can interfere with safe driving.
- Discuss the importance of encouraging the driver with a non-disqualifying medical condition to seek appropriate remedial care that may prevent or delay future condition-related disqualification.

## **Musculoskeletal Standards Objectives**

### **Non-disqualifying Musculoskeletal Conditions**

- Give examples of drivers with non-disqualifying musculoskeletal conditions and discuss:
  - Why in the examples the drivers can be qualified.
  - What steps the drivers should be advised to take to correct or control conditions.
  - How the conditions affects the ability of the drivers to operate CMVs.

### **Agents Used to Treat Musculoskeletal Conditions**

- Discuss possible prescriptions and over-the-counter (OTC) agents that might be used when the driver has a musculoskeletal condition.
- Give examples of medical examiner discussion and advice that demonstrates the importance of relating information on driving ability and driver certification.
- Discuss dietary and lifestyle advice that may be appropriate for the driver with a non-disqualifying musculoskeletal condition.

Topic 7: Determining driver certification outcome and period for which certification should be valid.

## **Global Objectives**

### **Certification Outcome**

- Recall that according to regulation, a driver with a musculoskeletal disease or deficit that does not interfere with driving ability and/or the ability to perform non-driving tasks can be certified.
- Recall that requiring an Skill Performance Evaluation (SPE) certificate is one of the modifications printed on the Medical Examination Report form, status section, and the medical examiner's certificate.
- Recall that the maximum period for which a driver with a fixed deficit of an extremity, with or without a SPE certificate can be certified for up to 2 years.
- Give examples of a driver with a musculoskeletal condition for which it would be appropriate to shorten the certification period to less than 2 years.

### **Do Not Certify the Driver**

- Recall that the medical examiner should not certify the driver with a musculoskeletal disease or deficit so severe that it interferes with driving ability and/or the ability to safely perform non-driving tasks.

Topic 8: FMCSA reporting and documentation requirements.

**Global Objectives**

**Documentation**

- Demonstrate correct documentation of driver certification status on the Medical Examination Report form.
- Demonstrate correct completion of medical examiner's certificate.
- Recall that the only modifications that a medical examiner can impose with driver certification are those that are printed on the Medical Examination Report form and medical examiner's certificate.

**Musculoskeletal Standards Objectives**

**Musculoskeletal Documentation**

- Review documenting that an otherwise medically fit for duty driver with a fixed deficit must have a Skill Performance Evaluation (SPE) certificate on both the Medical Examination Report form and the medical examiner's certificate.

## **Self-checks**

Self-checks are a stem and key example resource for developing knowledge mastery learning strategies, such as discussion, drill-and-practice, and pre- and post-topic comprehension assessment interactions. Use of self-check content is optional.

## **Stems and Keys**

### **Musculoskeletal Regulation Recall**

#### **Stem**

According to 49 CFR 391.41, is a commercial motor vehicle (CMV) driver with the loss of a leg, foot, hand, or arm qualified to operate a CMV?

#### **Key**

Yes, if the driver meets all other standards except for a fixed deficit of the lost extremity, and the driver has been granted a Skill Performance Evaluation (SPE) certificate pursuant to 49 CFR 391.49.

### **Musculoskeletal Alternate Standard Recall**

#### **Stem**

According to regulation, only \_\_\_\_\_ can grant drivers a SPE certificate.

#### **Key**

Only FMCSA can grant drivers a SPE certificate.

The four FMCSA regional centers, including contact information and territory serviced, are listed on the FMCSA Web site SPE program page.

#### **Stem**

According to regulation, what medical examiner documentation is required when a driver applies for a SPE certificate?

#### **Key**

The driver must include copies of the Medical Examination Report form, status section, and the medical examiner's certificate, indicating that medical certification must be "accompanied by a SPE certificate."

#### **Stem**

According to regulation, what is the certification period for a SPE certificate? What is the maximum certification period when medical certification must be accompanied by a SPE certificate?

#### **Key**

The SPE certificate is issued for 2 years. The otherwise medically qualified driver with a fixed deficit requiring a SPE certificate may be certified for up to 2 years.

### **Musculoskeletal Regulations Analysis**

#### **Stem**

Which of the following conditions would require the driver to complete qualifying procedures under 49 CFR 391.49?

1. Missing fourth and fifth fingers of right hand; has strong hand grasp.
2. Missing right foot since age 2; uses prosthesis and runs marathons.
3. Status post-crush injury to left arm; has atrophy and weakness in ulnar distribution.
4. Suffering from carpal tunnel syndrome; has weak hand grasp.

**Key**

1. Does not require 49 CFR 391.4 for certification. The medical examiner can assess for adequate grip strength; however, if any question of ability exists, medical examiner may request a treating or specialist evaluation.
2. Requires 49 CFR 391.4 for certification. Regardless of the driver's ability to adapt to other challenges, the driver must still demonstrate adequate skill in operating a CMV with his/her fixed deficit.
3. Requires 49 CFR 391.4 for certification. The driver must demonstrate adequate skill in operating a CMV with his/her fixed deficit, even if it is impairment and not loss of the extremity.
4. Does not require 49 CFR 391.4 for certification. Only fixed deficits can be qualified using the alternate standard. Carpal tunnel syndrome can be treated or, left untreated, can worsen causing increased impairment. Certification occurs only if the weakness in grasp is a fixed deficit, after maximal treatment, preventing any future deterioration from carpal tunnel syndrome.

**Musculoskeletal Medical Clinical Application**

**Stem**

Give examples of adapting clinical evaluation of the musculoskeletal system to ensure applicability when assessing CMV driver fitness for duty.

**Key**

Examples could include:

- Using resistive force or a dynamometer to have the driver demonstrate grip strength.
- Have driver simulate the range of motion and coordination of hands and leg required for steering and changing gears when operating a CMV.
- Having the driver demonstrate shoulder joint mobility, arm and leg muscle strength required to enter and exit the cab, and other driver-related duties.
- Having driver perform activity that demonstrate the ability to maneuver and maintain balance while under the trailer. Having the driver demonstrate cervical range of motion sufficient to look in either side mirror of an oversized CMV.
- Instructing the CMV driver to maintain an upright, seated posture against resistance offered, in all directions, to demonstrate stability of trunk muscles.

**Musculoskeletal Medical Clinical Analysis**

**Stem**

A driver presents for clearance to return to driving a CMV 6 weeks after arthroscopic carpal tunnel repair on his right hand. Can he be recertified, and, if so, for how long?

**Key**

The medical examiner would confirm that the driver meets standards by testing to determine if grip strength, prehension, sensation, and range of motion are sufficient to control the steering wheel and shift gears, as well as to perform other job tasks. The driver can be certified for 2 years, as long as he meets all other qualification standards.

## Scenarios

The objective of the clinical scenario is to reinforce application of the FMCSA regulations and guidance in the clinical setting, to effectively perform the driver physical examination. Use of example cases are optional. When used, the scenario can be used as a whole or in part to develop learning strategies as vignettes, role plays, simulations, and group discussion. Remember that all FMCSA Medical Examiner Certification Test items assess knowledge acquired through training in the context of medical examiner performance of critical tasks.

The format used to present the medical facts for the scenarios is based on the data a medical examiner records on the Medical Examination Report form.

### Medical Examination Report Form — Ms. Patricia O'Dell

#### Ms. O'Dell—Recertification Examination

Sex: Female | Age:42 | Height: 64" | Weight: 122 lbs.

#### Health History

Yes response(s): Any illness or injury in the last 5 years?

Medication(s): None.

#### Health History Comments

Ms. O'Dell had a cubital tunnel release in her right elbow 4 months ago. She did not bring any documentation from the surgeon and states that the physician retired 2 months after performing her surgery. She has not been seen by anyone else as part of surgical follow-up. She denies any prescribed medications and admits to taking an occasional over-the-counter ibuprofen (Motrin), mainly for menstrual cramps.

#### Vision

Uncorrected Acuity: Rt. Eye: 20/20 Lt. Eye: 20/20 Both: 20/20

Horizontal Field of Vision: Rt. Eye: 90° Lt. Eye: 90°

Meets standard only when wearing: corrective lenses? No

Color: Can distinguish red green and amber colors? Yes

Monocular Vision? No

#### Hearing

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: 5 Feet Lt. Ear: 5 Feet

Audiometric test hearing loss average: Rt. Ear: N/A Lt. Ear: N/A

#### Blood Pressure/Pulse

BP-122/72 P-67 & Regular

## Urinalysis

SP. GR.: 1.020 | Protein: Neg: | Blood: Neg | Glucose: Neg

## Physical Examination Comments

10. Physical examination reveals a recent scar on the right elbow, compatible with surgery about 4 months ago. Careful examination of strength in the upper extremities, focusing on grip strength, reveals symmetrical strength and mobility. The right elbow flexes and extends to a full range.

Nothing else is notable in the examination.

## Stems and Keys

### Best Outcome

#### Stem

What is the certification decision in this scenario?

#### Key

Based on clinical examination, the surgical site is completely healed, and no residual damage resulting from the surgery is apparent. She meets all other standards.

### Case-by-Case Assessment

#### Stem

Is it reasonable to assume that she would not have been able to meet grip standards if she had not had surgery for cubital tunnel syndrome?

#### Key

No. Since cubital tunnel syndrome predominantly affects the fourth and fifth fingers, and the majority of the grip strength is driven by the thumb, index, and middle fingers, the preservation of sufficient grip strength to meet standards is not unusual. However, if left untreated in individual cases, it could progress to affecting the rest of the hand.

#### Stem

When a driver presents with symptoms of a condition, such as cubital tunnel syndrome, but meets standards, what would an examiner discuss with the driver?

#### Key

Medical examiner should encourage primary care evaluation and, as appropriate, may suggest driver inform primary care provider of specific job demands or qualification standards, since the provider may not be familiar with the physical demands of CMV driving or the Federal regulations governing CMV driver medical certification.



## DIABETES MELLITUS

# Training Provider Handbook: Diabetes Mellitus–Module Overview

### Goal

FMCSA certified medical examiners will assess the driver with diabetes mellitus, determine medical fitness for duty, and document examination findings and affect on fitness for duty in accordance with the FMCSA physical qualification standards and policies.

### Competencies

Training should prepare the examiner to appropriately apply knowledge of diabetes mellitus standard and guidance, and/or Federal Diabetes Exemption to the performance of these tasks. Also, test items directly assess these tasks.

#### Identification and History

- Identify, query, and note issues in a driver's medical record and/or health history as available, which may include:
  - current over-the-counter (OTC) and prescription medications and supplements, and potential side effects, which may be potentially disqualifying)
  - weight disorders (e.g., unexplained loss or gain, obesity)
  - diabetes mellitus
    - weight loss
    - duration on current medications
    - medication side effects
    - complications from diabetes mellitus
    - availability of emergency glucose supply
    - presence and frequency of hypoglycemic / hyperglycemic episodes / reactions
  - other endocrine disorders (e.g., thyroid disorders, interventions / treatment)

#### Physical Examination and Evaluation

- Record height and weight, and note whether a driver is overweight or underweight
- Test the driver's urine and note specific gravity, protein, blood, and glucose
  - endocrine (e.g., diabetes mellitus)

#### Documentation of Ancillary Information

- Include information for a driver who is qualified with a FMCSA diabetes exemption, which includes an endocrinologist's and ophthalmologist/optometrist's report

#### Health Education Counseling

- Advise a driver
  - who has diabetes about blood glucose monitoring frequencies and the minimum threshold while driving (DO IIA2f)
  - with a diabetes exemption, he/she should
    1. possess a rapidly absorbable form of glucose while driving
    2. self-monitor blood glucose one hour before driving and at least once every four hours while driving
    3. comply with each condition of his/her exemption
    4. plan to submit blood glucose monitoring logs for each annual recertification

#### Risk Assessment

## DIABETES MELLITUS

- Consider for documented conditions the rate of progression, degree of control, and likelihood of sudden incapacitation (e.g., cardiovascular, neurologic, respiratory, musculoskeletal)

### **Certification Outcomes and Intervals**

- Apply absolute certification standards to disqualify a driver
- Indicate certification status, which may require
  - with diabetes requiring insulin control (unless accompanied by an exemption)
  - waiver/exemption, which the medical examiner identifies

### **FMCSA Content Sources**

At the completion of training, the medical examiner should be able to use the following FMCSA regulations and guidance resources to correctly perform driver diabetes assessment:

- 49 CFR 391.41(b)(3) Physical qualifications for drivers
- 49 CFR 391.43 Medical examination; certificate of physical qualification (Diabetes)
- 49 CFR 391.64(a) Grandfathering for certain drivers participating in diabetes waiver study programs.
- Medical Examination Report form and Advisory Criteria for diabetes
- Medical examiner's certificate
- FMCSA Web site: Driver Exemption Programs (Diabetes Package)
- FMCSA Medical Examiner Handbook, Diabetes Mellitus (b)(3)

# DIABETES MELLITUS

Topic 1: Background, rationale, mission, and goals of the FMCSA medical examiner's role in reducing crashes, injuries, and fatalities involving commercial motor vehicles (CMVs).

## Global Objectives

### Regulation and guidance

- Recall regulations or standards are laws and must be followed.
- Recall medical examiners are responsible for determining if the CMV driver is medically qualified and is safe to drive under the Federal Motor Carrier Safety Regulations (FMCSRs).
- Recognize that guidelines are intended as best practices for medical examiners.
- Give an example of documenting the reason(s) for a certification decision that does not conform with guidelines.

## Diabetes Standards Objectives

### Driver physical qualification requirements

- Recall that diabetes mellitus qualification requirements are cited in 49 CFR 391.41 (b)(3).
- Recall that the diabetes mellitus qualification requirement is based on treatment of the disease includes insulin and not the diagnosis of the disease.

### Medical examiner responsibilities

- Discuss the instruction in 49 CFR 391.43 (f) Diabetes "the driver must remain under adequate medical supervision".
- Recall that qualification of the driver with diabetes mellitus who does not use insulin is determined by case-by-case evaluation of driver ability to manage the disease and meet the other qualification standards.
- Recall that 49 CFR 391.43 Diabetes indicates that the driver with diabetes mellitus who uses insulin does not meet the standard for physical qualification. However, the medical examiner should complete the physical examination of the driver to determine if the driver is "otherwise medically fit for duty" except for the use of insulin.

### Qualified by Operation of 49 CFR 391.64

- Recall that this regulation grandfathered a small number of drivers who participated in a research study in the mid-1990s to operate a CMV as long as they are otherwise medically fit and in compliance with the requirements of the regulation.
- Recognize that this small population of drivers are governed by 49 CFR 391.64(a) and must provide the letter from FMCSA as proof of their grandfathered status before you issue a medical examiner's certificate to the driver.

**NOTE:** This FMCSA waiver study program concerning CMV operation by drivers with insulin-controlled diabetes was the predecessor of the Federal Diabetes Exemption Program. Participants in good standing on March 31, 1996 were provided a letter from FMCSA that grandfathered them an exemption from standard 49 CFR 391.41(b)(3) by operation of 49 CFR 391.64(a) as long as the driver is in compliance with the requirements. These drivers are governed by 49 CFR 391.64(a) and must provide the letter from FMCSA as proof of their grandfathered status before you issue a medical examiner's certificate to the driver. The grandfathering provision is no longer available.

### Federal Diabetes Exemption Program

- Recall that the Federal Diabetes Exemption Program allows some drivers with diabetes mellitus who use insulin to operate a commercial motor vehicle.

**NOTE:** An exemption is a temporary regulatory relief from one of more of the FMCSRs, e.g., 49 CFR 391.41 (b)(3) insulin-treated diabetes mellitus. An exemption provides the driver with relief from the requirement for up to two years, but may be renewed. The medical examiner cannot grant waivers or exemptions. Only the FMCSA grants an exemption for the driver with diabetes mellitus who uses insulin. Medical examiners determine if the individual is otherwise medically fit for duty.

## Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU)

## DIABETES MELLITUS

- Recognize impacts of SAFETEA-LU on Federal Diabetes Exemption program include:
  - Eliminating the requirement for drivers to report traffic violations.
  - Setting of minimum waiting periods for the drivers newly started on insulin.

### **Instructions to Medical Examiner**

- Inform participants that current contact information for the Federal Diabetes Exemption Program is available on the Diabetes in the Medical Examiner Handbook resources section:
  - Web site: Driver Exemption Programs (Diabetes)
  - E-mail: [medicalexemptions@dot.gov](mailto:medicalexemptions@dot.gov)
  - Phone: (703) 448-3094

# DIABETES MELLITUS

Topic 2: Familiarization with the responsibilities and work environment of commercial motor vehicle (CMV) operation.

## **Global Objectives**

### **Job of Commercial Driving**

- Describe the safety implications of the job of commercial driving for driver and the public.
- Give an example of how work environment impacts the ability of the driver to operate a CMV safely. Give an example of communication ability required to perform the job of commercial driving.

## **Diabetes Mellitus Standards Objectives**

### **Diabetes Mellitus Safety Implications**

- Give three examples of symptoms of hyperglycemic or hypoglycemic reactions that can lead to incapacitation of the driver.
- Discuss why preventing hypoglycemia is the considered the most critical and challenging safety issue for any driver with diabetes mellitus.
- Discuss how the risk of comorbidities may affect driver ability to safely operate a CMV.

### **Work Environment Affects Management of Diabetes Mellitus**

- Discuss how the demands of driving commercial vehicles compound the risk associated with diabetes mellitus such as poor diet and/or missed meals, lack of sleep, emotional conditions, and stress.
- Relate how factors related to long-haul commercial motor vehicle operations compound the risks associated with the use of insulin.

### **Diabetes and Driver Communication**

- Compare how driver ability to communicate the need for medical assistance is affected by hyperglycemia and hypoglycemia.

# DIABETES MELLITUS

Topic 3: Obtaining, reviewing, and documenting driver medical history, including prescription and OTC medications.

## **Global Objectives**

### **Health History**

- Recall that history is completed by the driver.
- Identify the health history questions that are specific to diabetes mellitus.

### **Positive History for Diabetes Mellitus or Elevated Blood Glucose**

- Discuss health history questions that help medical examiners assess how well the driver manages the disease process including:
  - Blood glucose control.
  - Severity and frequency of hypoglycemic reaction including 1 year and 5 year occurrences.

### **Medication Used to Manage Diabetes Mellitus or Control Elevated Blood Glucose**

- Discuss safety implications of medications used to treat diabetes mellitus, including possible interactions, side effects, and reactions.
- Recall that a driver with diabetes mellitus who uses insulin does not meet the minimum qualification requirement of 49 CFR 391.41.

# DIABETES MELLITUS

Topic 4: Performing, reviewing, and documenting the driver's medical examination.

## Global Objectives

### Physical Examination

- Recall that a requirement of the CMV driver physical examination is a urinalysis (dipstick).
- Recall that minimum physical examination requires assessment of target organ disease associated with dysfunction of the senses, including:
  - Retinopathy.
  - Macular degeneration.
  - Peripheral neuropathy.
- Recall that abnormal findings should be discussed with the driver and the discussion documented.
- Describe the correct way to comment on abnormal findings according to the instructions in section 7: Physical Examination of the Medical Examination Report form.

## Assessment of the Driver with Diabetes Mellitus Objectives

### Urinalysis

- Recall this test is required for every examination.
- Discuss the importance of the urinalysis in identifying the driver with unknown or poorly controlled diabetes mellitus.
- Discuss possible next steps when a driver has glycosuria.

### Blood Glucose

- Recall that individual assessment is required to determine if the disease process interferes with safe driving.
- Discuss why the medical examiner and treating provider view the risk of diabetes mellitus differently.
- Explain when American National Standard Institute (ANSI) conversion is required.

### Target Organ Damage

- Give examples of target organ damage associated with the progression of diabetes mellitus that can interfere with safe driving.
- Discuss appropriate documentation of abnormal findings associated with diabetes mellitus on driving ability, include examples of both disqualifying findings.

# DIABETES MELLITUS

Topic 5: Performing, obtaining, and documenting additional diagnostic tests or medical opinion from a medical specialist or treating physician.

## Global Objectives

### Ancillary Tests and Evaluation

- Recall that additional tests and/or evaluation should be obtained when examination findings are inconclusive for determining medical fitness for duty.
- Recall that additional test results and evaluation used to assess medical fitness for duty must be included with the Medical Examination Report form.
- Differentiate between the role of the medical examiner to determine medical fitness for duty and the role of the primary care provider to diagnose and treat the condition.

## Driver with Diabetes Mellitus Objectives

### Additional Evaluation Considerations

- Identify healthcare professionals with whom the medical examiner may consult to adequately assess medical fitness for duty of the driver with diabetes mellitus, including primary care provider, ophthalmologist, optometrist, endocrinologist and/or neurologist.
- Give examples of findings that may indicate the medical examiner should obtain additional testing and/or evaluation of the driver with diabetes mellitus.
- Identify when FMCSA specifies that the driver with diabetes mellitus must be evaluated by a specific provider such as an endocrinologist.

### Comorbid Conditions

- Discuss medical guidelines for comorbid conditions, including peripheral and autonomic neuropathy, and diabetic retinopathy.
- Discuss the safety implication of diabetes mellitus being classified as a "coronary heart disease risk-equivalent condition."

### Federal Diabetes Exemption Program

- Review the program requirements for driver specialist evaluation including specialist credential and frequency.
- Recall that at recertification medical examinations the driver should provide copies of specialists reports to the medical examiner.



# DIABETES MELLITUS

Topic 6: Informing and educating the driver about medications and non-disqualifying medical conditions that may require remedial care.

## **Global Objectives**

### **Discussion and Education**

- Recall that the medical examiner has a responsibility to inform and educate the driver about use, effects, and/or side effects of medication that can interfere with safe driving.
- Discuss the importance of encouraging the driver with a non-disqualifying medical condition to seek appropriate remedial care that may prevent or delay future condition-related disqualification.

## **Managing Diabetes Mellitus Objectives**

### **Primary Care Provider and Specialist**

- Discuss how the medical examiner can communicate the benefits of following primary care provider care plan for disease management to decrease the risk of complications that could prevent driver certification.
- Recall that annual diabetes mellitus education is a requirement of the Federal Diabetes Exemption Program.

# DIABETES MELLITUS

Topic 7: Determining driver certification outcome and period for which certification should be valid.

## **Global Objectives**

### **Certification outcome**

- Recall that medical examiner must determine certification status in accordance with FMCSA Physical qualification standards.
- Recall that only driver medical examiner certificate modifications that can be required are printed on the Medical Examination Report form status and the medical examiner's certificate.
- Discuss how medical guidance is used to help determine driver certification status.
- Recall that maximum certification period can not exceed 2 years.

### **Certification of the Driver with Diabetes Mellitus**

- Recall that annual recertification is recommended for drivers with diabetes mellitus who are not using insulin because of the progressive nature of the disease and the potential for complications.
- Recall that medical certification of the driver with diabetes mellitus who uses insulin must be accompanied by a Federal Diabetes Exemption before the driver can legally operate a CMV.
- Recall that the Federal Diabetes Exemption requires at least annual physical examination of the driver with diabetes mellitus who uses insulin.

### **When Not to Certify**

- Recommend not to certify the driver with diabetes mellitus who has a disqualifying complication, comorbidity, or treatment that interferes with safe driving.
- Recall that the medical examiner must not medically recertify the driver with a Federal Diabetes Exemption if certification of the driver is contrary to the public interest and presents an unacceptable risk to safety.

# DIABETES MELLITUS

Topic 8: FMCSA reporting and documentation requirements.

## **Global Objectives**

### **Documentation**

- Demonstrate correct documentation of driver certification status on the Medical Examination Report form.
- Demonstrate correct completion of medical examiner's certificate.
- Recall that a driver with diabetes mellitus who uses insulin who is determined to be otherwise medically qualified, the examiner must indicate that a diabetes exemption is required on the:
  - Medical Examination Report form status.
  - Medical examiner's certificate.

## **Diabetes Mellitus Standards Objectives**

### **Urinalysis**

- Give examples correctly recording urinalysis test results.
- Demonstrate correct documentation of driver requirement to using diet, pills or insulin to control blood glucose level.

# DIABETES MELLITUS

## Self-checks

Self-checks are a stem and key example resource for developing knowledge mastery learning strategies, such as discussion, drill and practice, and pre- and post-topic comprehension assessment interactions. Use of self-check content is optional.

## Stems and Keys

### Certification Documentation Recall

#### Stem

A medical examiner performed the initial examination of a driver with diabetes mellitus who uses insulin. The driver was otherwise medically qualified and given a medical examiner's certificate indicating that the driver must also have a Federal Diabetes Exemption. The driver is:

#### Key

Disqualified from commercial driving until the driver has a Federal diabetes exemption.

### Certification Timeframe Recall

#### Stem

What is the recommended certification interval for a driver with diabetes mellitus who does not use insulin?

#### Key

1 Year

### Audiometric Test Results Application

#### Stem

Which diabetes mellitus risk poses the greatest threat to public safety?

#### Key

Hypoglycemia.

# DIABETES MELLITUS

## Scenarios

The objective of the clinical scenario is to reinforce application of the FMCSA regulations and guidance in the clinical setting to effectively perform the driver physical examination. Use of example cases are optional. When used, the scenario can be used as a whole or in part to develop learning strategies such as vignettes, role plays, simulations, and group discussion. Remember that all FMCSA Medical examiner certification test items assess knowledge acquired through training in the context of medical examiner performance of critical tasks.

### Medical Examination Report Form—Mr. Erik Peters

#### Mr. Peters—Recertification Examination

Sex: Male | Age: 55 | Height: 70" | Weight: 225 lbs.

#### Health History

Driver stated that his primary care physician had diagnosed his diabetes mellitus approximately 2 years ago after having “sugar spillage” in his “DOT” urine sample. Subsequent “fasting blood sugar” confirmed “mild” diabetes mellitus. His initial reported HgbA1-c was “approximately 8” and Darius was placed on a diet via dietician referral. He has lost approximately 50 pounds to date, and remains “only” on “diet control” for his diabetes. He has periodic blood glucose monitoring performed by his primary care physician, re-evaluations twice a year including HgbA1-C testing.

Driver provided copy of primary care provider medical records:

- Last HgbA1-c (2 months old) was 7.2 % (previous 7.3%).
- No hypoglycemic episode history reported.
- Continues with gradual weight loss over past two years.
- No reported target organ effects/damage to date (with dilated eye examination by ophthalmology).
- Compliance with periodic primary care physician re-evaluation, lab studies, and diet modification.

#### Vision:

Uncorrected Acuity: Rt. Eye: 20/25 Lt. Eye: 20/20 Both: 20/20

Horizontal Field of Vision: Rt. Eye: 80° Lt. Eye: 80°

Meets standard only when wearing: corrective lenses? No

Color: Can distinguish red, green, and amber colors? Yes

Monocular Vision? No

#### Hearing:

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: 5 Feet Lt. Ear: 5 Feet

Audiometric test hearing loss average: Rt. Ear: N/A Lt. Ear: N/A

#### Blood Pressure/Pulse

BP-134/80 P-86 & Regular

# DIABETES MELLITUS

## Urinalysis

SP. GR.: 1.030 | Protein: Neg: | Blood: Neg | Glucose: Neg

## Comments

- Driver with elevated body mass index (BMI).
- Obese abdomen.

Rest of physical examination is unremarkable.

## Stems and Keys

### Best Outcome

#### Stem

What is the best determination outcome of this examination?

#### Key

Certify Mr. Peters for 1 year. The historical and ancillary information appear congruent regarding his diabetes mellitus. His clinical examination did not reveal signs of target organ effects/ damage due to his diabetes mellitus. There is no history of hypoglycemic events and/or gradual or sudden incapacitation. Laboratory studies confirm control of diabetes mellitus and compliance with his outlined treatment regimen.

## OTHER DISEASES

# Training Provider Handbook: Other Diseases –Module Overview

### Goal

FMCSA certified medical examiners will assess driver overall physical fitness, determine medical fitness for duty, and document examination findings and effect on fitness for duty in accordance with the FMCSA physical qualification standards and policies.

### Competencies

Training should prepare the examiner to appropriately apply knowledge of other mental, nervous, organic, or functional diseases or psychiatric disorders not covered in the rest of the training modules. These other diseases or disorders, such as those identified below, can also interfere with the ability to drive a commercial motor vehicle safely.

#### Identification and History

- Identify, query, and note issues in a driver's medical record and/or health history as available, which may include:
  - hematologic disorders (e.g., bleeding disorders, anemia, cancer, organ transplant history)
  - gastrointestinal disorders (e.g., pancreatitis, ulcers, ulcerative colitis, cirrhosis, hepatitis, irritable bowel syndrome, hernias)
  - genitourinary disorders (e.g., polycystic, nephrotic syndrome, kidney stones, renal failure, hernias)
  - neoplastic disorders (e.g., leukemia; brain, bone, breast, and lung cancer)

#### Physical Examination and Evaluation

- Examine the driver's neck and note:
  - soft tissue palpation/examination (e.g., lymph nodes, thyroid gland)
- Examine the driver's abdomen, and note:
  - surgical scars an enlarged liver or spleen
  - abdominal masses or bruits/pulsation
  - abdominal tenderness
  - hernias (e.g., inguinal, umbilical, ventral, femoral)
- Test the driver's urine and note specific gravity, protein, blood, and glucose

#### Diagnostic Tests and/or Referrals

- Obtain additional information when indicated by:
  - blood analyses (e.g., electrolytes, toxicology, blood chemistries ) drug-level monitoring (e.g., digoxin, theophylline)

#### Documentation of Ancillary Information

- Record/include results, as available, with other information about the driver, which may include:
  - blood analyses (e.g., electrolytes, toxicology, blood chemistries) drug-level monitoring (e.g., digoxin, theophylline)

#### Health Education Counseling

- Advise a driver:
  - regarding side effects and interactions of medications and supplements (e.g., narcotics, anticoagulants, psychotropics), including over-the-counter (OTC) purchases (e.g., antihistamines, cold and cough medications), which could negatively affect his/her driving

## OTHER DISEASES

- that fatigue, lack of sleep, undesirable diet, emotional conditions, stress, and other illnesses can affect safe driving
- Inform the driver of the rationale for delaying or potentially disqualifying certification, which may include
  - the immediate post-operative period
  - endocrine dysfunctions (e.g., diabetes mellitus)

### **Risk Assessment**

- For documented conditions, consider the rate of progression, degree of control, and likelihood of sudden incapacitation (e.g., cardiovascular, neurologic, respiratory, musculoskeletal)

### **Certification Outcomes and Intervals**

- Disqualify a driver when evidence shows a condition exists that will likely interfere with the safe operation of a CMV, which may include sufficient supporting opinions and information from specialists

### **FMCSA Content Sources**

At the completion of training, the medical examiner should be able to use the following FMCSA regulations and guidance resources to correctly perform driver physical assessment for other diseases:

- 49 CFR 391.41(b)(9) Physical qualifications for drivers
- 49 CFR 391.43(f) General Information Medical examination; certificate of physical qualification
- Medical Examination Report form and Advisory Criteria
- Medical examiner's certificate
- FMCSA Medical Examiner Handbook, Other Diseases, 49 CFR 391.41(b)(9)



## OTHER DISEASES

Topic 1: Background, rationale, mission, and goals of the FMCSA medical examiner's role in reducing crashes, injuries, and fatalities involving commercial motor vehicles (CMVs).

### Global Objectives

#### Regulation and Guidance

- Recall that regulations or standards are laws and must be followed.
- Recall that medical examiners are responsible for determining if the CMV driver is medically qualified and safe to drive under the Federal Motor Carrier Safety Regulations (FMCSRs).
- Recognize that guidelines are intended as best practices for medical examiners.

### Other Diseases Standards Objectives

#### Driver Physical Qualification Requirements

- Recall that general physical qualification requirements not otherwise described are cited in 49 CFR 391.41 (b)(9).
- Recall that the medical examiner determines, on a case-by-case basis, if a driver is medically fit for duty, regardless of whether or not the driver meets the minimum requirements of individual standards.

#### Medical Examiner Responsibilities

- Identify the additional musculoskeletal examination parameters cited in 49 CFR 391.43 (f) General Information.
- Recall that any individual can have an atypically mild or severe presentation of a condition, and that the medical examiner is responsible for determining if the individual is medically fit for duty.

#### Instructions to Medical Examiner

- Discuss advisory instruction for the examination of the driver, including:
  - Identify the additional musculoskeletal examination parameters cited in Medical Examiner Handbook, Driver and Driver Role.
  - The somatic considerations described in Advisory Criteria for 49 CFR 391.41(b)(9).

## OTHER DISEASES

Topic 2: Familiarization with the responsibilities and work environment of commercial motor vehicle (CMV) operation.

### **Global Objectives**

#### **Job of Commercial Driving**

- Describe the safety implications of the job of CMV driving for the driver and the public.
- Give an example of how work environment impacts the ability of the driver to operate a CMV safely.
- Discuss the physical demands of CMV driver tasks, including tasks other than driving.

### **Other Diseases Standards Objectives**

#### **Other Diseases Safety Implications**

- Review other diseases, not specified elsewhere in regulations, discussing how the disease and/or treatment may interfere with safe driving:
  - Renal diseases.
  - Genitourinary diseases.
  - Gastrointestinal diseases.
- Example safety implications might include:
  - Complicated and physically stressful treatment, e.g., dialysis.
  - Acute, painful, and possibly incapacitating symptoms.
  - Gradual onset of incapacitating symptoms.

## OTHER DISEASES

Topic 3: Obtaining, reviewing, and documenting driver medical history, including prescription and over-the-counter (OTC) medications.

### Global Objectives

#### Health History

- Recall that history is completed by the driver.
- Identify the health history questions that are specific to the other diseases.
- Give examples of other diseases historical findings.
- Explain how the example findings affect the physical examination and/or certification outcome.

### Other Diseases Standard Objectives

#### Obtaining and Reviewing

- Discuss historical review focusing on:
  - Ascertaining additional information to determine any current limitations associated with affirmative history.
  - Health history indicators that more information should be obtained even though not specifically required by the Medical Examination Report form.
- Review the safety implications of the treatment, including the:
  - Effects or side effects of medications.
  - Underlying reason for use of medications.
  - Difficulty associated with treatment when driver is on the road for extended periods of time.

# OTHER DISEASES

Topic 4: Performing, reviewing, and documenting the driver medical examination.

## Global Objectives

### Physical Examination

- Recall that the Medical Examination Report form Body System "Check For" list has the minimum examination requirements.
- Describe the correct way to comment on abnormal findings, according to the instructions in Section 7, Physical Examination, of the Medical Examination Report form.
- Recall that the effect of an abnormality on the ability of the driver to operate a CMV safely should be noted.
- Recall that abnormal findings should be discussed with the driver, and the discussion documented.

## Other Diseases Standards Objectives

### Examination of the Other Body System

- Discuss the Medical Examination Report form physical examination "Check For" list for:
  - General appearance.
  - Mouth and throat.
  - Abdomen and viscera.
  - Genitourinary system.
- Recall that a driver may have an atypically mild or severe presentation and discuss how that may affect physical examination driver.
- Compare and contrast the driver examination of these systems with the standard physical examination.
- Review clinical course considerations, including whether the disease is reversible, episodic or degenerative?

## OTHER DISEASES

Topic 5: Performing, obtaining, and documenting additional diagnostic tests or medical opinion from a medical specialist or treating physician.

### Global Objectives

#### Ancillary Tests and Evaluation

- Recall that additional tests and/or evaluations should be obtained when examination findings are inconclusive for determining medical fitness for duty.
- Recall that additional test results and evaluation used to assess medical fitness for duty must be included with the Medical Examination Report form.
- Differentiate between the role of the medical examiner to determine medical fitness for duty and the role of the primary care provider to diagnose and treat the condition.
- Recall what required urinalysis abnormalities are most indicative of other disease abnormalities.

### Other Diseases Guidance Objectives

#### Additional Evaluation Considerations

- Recall that the medical examiner may require additional evaluation of a driver to adequately assess medical fitness for duty.
- Give examples of other diseases and discuss:
  - Findings that indicate additional testing and evaluation.
  - Appropriate healthcare provider to consult.
  - What information the medical examiner would be looking for to determine medical fitness for duty.

## OTHER DISEASES

Topic 6: Informing and educating the driver about medications and non-disqualifying medical conditions that require remedial care.

### Global Objectives

#### Discussion and Education

- Recall that the medical examiner has a responsibility to inform and educate the driver about use, effects, and/or side effects of medication that can interfere with safe driving.
- Discuss the importance of encouraging the driver with a non-disqualifying medical condition to seek appropriate remedial care that may prevent or delay future condition-related disqualification.

### Other Diseases Standards Objectives

#### Non-disqualifying Other Diseases

- Give examples of drivers with a non-disqualifying condition not identified by specific regulations and discuss:
  - Why, in the example, the driver can be qualified.
  - What steps the driver should be advised to take to correct or control condition.
  - How the condition affects the ability of the driver to operate a CMV.

#### Agents Used to Treat Other Diseases

- Discuss possible prescriptions and OTC agents that might be used when the driver has other conditions not identified by specific regulations.
- Give examples of medical examiner discussion and advice that demonstrate the importance of relating information to driving ability and certification.
- Discuss dietary and lifestyle advice that may be appropriate for the driver with a non-disqualifying, "other disease" condition.

## OTHER DISEASES

Topic 7: Determining driver certification outcome and period for which certification should be valid.

### Global Objectives

#### Certification Outcome

- Recall that medical examiner must determine certification status in accordance with FMCSA physical qualification standards.
- Recall that the only driver medical examiner certificate modifications that can be required are printed on the Medical Examination Report form, status section, and the medical examiner's certificate.
- Discuss how medical guidance is used to help determine driver certification status of diseases not specifically addressed by the qualification requirements in 49 CFR 391.41(b).
- Recall that maximum certification period cannot exceed 2 years.
- Recall that the medical examiner may issue a certificate for a shorter period of time.

### Other Diseases Standard Objectives

#### Certification of the Driver

- Recall that according to regulation, a driver with a disease or deficit that does not interfere with driving ability and/or the ability to perform non-driving tasks can be certified.
- Recall that a good clinical prognosis does not always ensure the safety of the driver and the public.
- Give examples of a driver with an "other disease" condition for which it would be appropriate to certify for:
  - 2 years.
  - A period less than 2 years.

#### Do Not Certify the Driver

- Give examples of a driver with an "other disease" condition for which it would not be appropriate to certify.

# OTHER DISEASES

Topic 8: FMCSA reporting and documentation requirements.

## Global Objectives

### Documentation

- Demonstrate correct documentation of driver certification status on the Medical Examination Report form.
- Demonstrate correct completion of medical examiner's certificate.
- Recall that the only modifications that a medical examiner can impose with driver certification are those that are printed on the Medical Examination Report form and medical examiner's certificate.

## Other Disease Standards Objectives

### Other Disease Documentation

- Review documenting a driver with an "other disease" who:
  - Requires periodic monitoring using the Medical Examination Report form and the medical examiner's certificate.
  - Is disqualified using the Medical Examination Report form.



## OTHER DISEASES

### Self-checks

Self-checks are a stem and key example resource for developing knowledge mastery learning strategies, such as discussion, drill-and-practice, and pre- and post-topic comprehension assessment interactions. Use of self-check content is optional.

### Stems and Keys

#### Other Diseases Regulation Recall

##### Stem

How does an examiner determine whether a gastrointestinal condition would potentially disqualify a driver?

##### Key

If the gastrointestinal condition is one that might produce symptoms or physical changes that would potentially impair driver ability to control or drive a CMV safely; the disease should disqualify the driver until it is resolved.

##### Stem

List the four specific urinalysis tests results required for driver physical examination and identify which abnormal results would indicate further evaluation of the genitourinary system.

##### Key

Specific gravity, protein, blood, and glucose. Abnormalities in one or more of the first three may indicate further evaluation of the genitourinary system. Glycosuria may indicate that the driver has undiagnosed or poorly controlled diabetes mellitus.

#### Other Disease Additional Evaluation Application

##### Stem

What would the medical examiner do next if a significant abnormal finding for urinalysis specific gravity, protein, and blood is found?

##### Key

Medical examiners use their clinical expertise to determine if additional evaluation is required and request or recommend primary care provider follow-up.

#### Other Diseases Medication Application

##### Stem

A driver is taking dicyclomine (Bentyl), 20 mg, QID for irritable bowel syndrome (IBS) with good control of symptoms. Is this driver qualified for certification?

##### Key

Yes, as long as the medication adequately controls the symptoms. This medication is unlikely to be habit-forming and is unlikely to cause any impairment of the safe operation of a CMV. Poorly-controlled IBS may be more of an issue. Since this driver's symptoms are well controlled with this medication, he/she may be certified.

#### Other Diseases Certification Analysis

##### Stem

## OTHER DISEASES

Discuss the decision by a medical examiner to shorten a recertification interval or to disqualify a CMV driver with a history of kidney disease and/or kidney transplant.

### **Key**

Discussion points can include the following: individualize each decision; document specific, relevant data concerning the disease, severity, stability, medication and medication side effects/adverse reactions; CMV driver functional status and abilities (especially referring to his/her ability to control and operate a CMV safely and performing all the required FMCSA-outlined CMV driver physical demands); and written input from the CMV driver's specialist.

## OTHER DISEASES

### Scenarios

The objective of the clinical scenario is to reinforce application of the FMCSA regulations and guidance in the clinical setting, to effectively perform the driver physical examination. Use of example cases are optional. When used, the scenario can be used as a whole or in part to develop learning strategies as vignettes, role plays, simulations, and group discussion. Remember that all FMCSA Medical Examiner Certification Test items assess knowledge acquired through training in the context of medical examiner performance of critical tasks.

The format used to present the medical facts for the scenarios is based on the data a medical examiner records on the Medical Examination Report form.

### Medical Examination Report Form — Ms. Jennifer Robinson

#### Ms. Robinson—Recertification Examination

Sex: Female | Age:42 | Height: 67" | Weight: 172 lbs.

#### Health History

Yes response(s): None.

Medication(s): None.

#### Health History Comments

Ms. Robinson presents for 2-year recertification examination. She reports a negative health history. She reports taking a daily multivitamin. She doesn't smoke or use alcohol.

#### Vision

Uncorrected Acuity: Rt. Eye: 20/20 Lt. Eye: 20/20 Both: 20/20

Horizontal Field of Vision: Rt. Eye: 90° Lt. Eye: 90°

Meets standard only when wearing: corrective lenses? No

Color: Can distinguish red, green, and amber colors? Yes

Monocular Vision? No

#### Hearing

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: 5 Feet Lt. Ear: 5 Feet

Audiometric test hearing loss average: Rt. Ear: N/A Lt. Ear: N/A

#### Blood Pressure/Pulse

BP-130/84 P-72 & Regular

#### Urinalysis

SP. GR.: 1.020 | Protein: 1+ | Blood: 4+nonhemolyzed blood Neg | Glucose: Neg

## OTHER DISEASES

Hemoglobin 12.2

### Physical Examination Comments

9. Second day of menses with heavy bleeding.

Nothing else is notable in the examination.

### Stems and Keys

#### Best Outcome

##### Stem

What is the best determination outcome of this examination?

##### Key

Meets standards in 49 CFR 391.41; qualifies for 2-year certificate. The underlying cause for abnormal findings were identified, not disqualifying, and presents no imminent individual or public safety risk.

#### Additional Evaluation Analysis

##### Stem

Are there any safety-related issues the medical examiner should point out to Ms. Robinson when advising her to seek primary care or specialist follow-up?

##### Key

Excessive bleeding can lead to anemia, making her more easily fatigued and affect the physical demands required for the job making her less able to safely perform the job of CMV.

# Training Provider Handbook: Psychological –Module Overview

## Goal

FMCSA certified medical examiners will assess the driver for mental disorders and document examination findings and effect on fitness for duty, in accordance with the FMCSA physical qualification standards and policies.

## Competencies

Training should prepare the examiner to appropriately apply knowledge of mental health standards and guidance to the performance of these tasks. Also, Medical Examiner Certification Test items directly assess these tasks.

### Identification and History

- Identify, query, and note issues in a driver medical record and/or health history, as available, which may include: psychiatric disorders, examples include:
  - schizophrenia
  - depression
  - anxiety
  - bipolar
  - Attention deficit hyperactivity disorder interventions/treatment

### Physical Examination and Evaluation

- 14. Examine the driver's mental status and note:
  - comprehension and interaction
  - cognitive impairment, for example
    - orientation
    - intellect
    - memory
    - obsessions
    - circumstantial/tangential
    - speech
  - signs of depression, paranoia, antagonism, or aggressiveness that may require follow-up with a mental health professional

### Diagnostic Tests and/or Referrals

- Obtain additional information when indicated by:
  - blood analyses (e.g., electrolytes, toxicology, blood chemistries)
  - drug level monitoring (e.g., digoxin, theophylline) (other tests)
  - treating physician work release
- Refer a driver who exhibits evidence of any of the following disorders for follow-up care and evaluation by an appropriate specialist or primary care provider
  - mental/emotional health (e.g., depression, schizophrenia)

### Documentation of Ancillary Information

- Record/include results, as available, with other information about the driver, which may include:
  - blood analyses (e.g., electrolytes, toxicology, blood chemistries)
  - drug level monitoring (e.g., digoxin, theophylline)

## PSYCHOLOGICAL

- other tests
- treating physician's work release
- Integrate a specialist's evaluation with other information about the driver Health Education Counseling
- Advise a driver:
  - regarding side effects and interactions of medications and supplements (e.g., narcotics, anticoagulants, psychotropics), including over-the-counter (OTC) medications (e.g., antihistamines, cold and cough medications) that could negatively affect his/her driving)
- Inform the driver of the rationale for delaying or potentially disqualifying certification, which may include mental health dysfunctions (e.g., depression, bipolar mood disorder)

### **Risk Assessment**

- Consider driver cognitive ability to
  - plan a travel route
  - inspect the operating condition of a tractor and/or trailer
  - monitor and adjust to a complex driving situation
  - maneuver through crowded areas
  - quickly alter the course of the vehicle to avoid obstacles
- Consider general health and wellness factors, such as:
  - adverse health effects associated with rotating work schedules and irregular sleep patterns long-term effects of fatigue associated with extended work hours without breaks
  - risk factors associated with common dietary choices available to drivers
  - stressors likely associated with extended time away from a driver's social support system
- For documented conditions, consider the rate of progression, degree of control, and likelihood of sudden incapacitation (e.g., cardiovascular, neurologic, respiratory, musculoskeletal)

### **Certification Outcomes and Intervals**

- Disqualify a driver when evidence shows a condition exists that will likely interfere with the safe operation of a CMV, which may include sufficient supporting opinions and information from specialists

### **FMCSA Content Sources**

At the completion of training, the medical examiner should be able to use the following FMCSA regulations and guidance resources to correctly perform driver physiological assessment:

- 49 CFR 391.41(b)(9) Physical qualifications for drivers
- 49 CFR 391.43(f) Instructions Medical examination; certificate of physical qualification
- Medical Examination Report form and Advisory Criteria
- Medical examiner's certificate
- FMCSA Medical Examiner Handbook, Psychological

# PSYCHOLOGICAL

Topic 1: Background, rationale, mission, and goals of the FMCSA medical examiner's role in reducing crashes, injuries, and fatalities involving commercial motor vehicles (CMVs).

## Global Objectives

### Regulation and Guidance

- Recall that regulations or standards are laws and must be followed.
- Recall that medical examiners are responsible for determining if the CMV driver is medically qualified and safe to drive under the Federal Motor Carrier Safety Regulations (FMCSRs).
- Recognize that guidelines are intended as best practices for medical examiners.

## Psychological Standards Objectives

### Driver Physical Qualification Requirements

- Recall that psychological qualification requirements are cited in 49 CFR 391.41 (b)(9).
- Discuss that the requirements are subjective based on whether or not disease or treatment interferes with the ability of the driver to operate a CMV safely.

### Medical Examiner Responsibilities

- Recall that the medical examiner is responsible for being aware of the mental and emotional demands placed on a CMV driver.
- Recall that the medical examiner should obtain additional evaluation by an appropriate mental health professional when indicated by history or physical examination.

### Instructions to Medical Examiner

- Discuss advisory instructions for mental disorders, including:
  - Identification of critical driver abilities directly affected by mental disorders.
  - Relationship between mental disorders and physical disorders that interfere with safe driving.
  - Likelihood of periodic, progressive, gradual, or sudden incapacitation.
  - Relationship of nervous disorders to CMV crashes.
  - Development of maladaptive behaviors that can affect the ability to drive safely.
  - Risks associated with medications used to treat mental disorders.
- Recall that FMCSA medical guidelines recommend that medical examiners consult with appropriate mental health professionals to adequately assess the driver with a known or suspected psychological condition, which might interfere with safe driving.

# PSYCHOLOGICAL

Topic 2: Familiarization with the responsibilities and work environment of commercial motor vehicle (CMV) operation.

## **Global Objectives**

### **Job of Commercial Driving**

- Describe the safety implications of CMV driving for the driver and the public.
- Give an example of how work environment impacts the ability of the driver to operate a CMV safely.

## **Psychological Standards Objectives**

### **Psychological Safety Implications**

- Recall the cognitive demands of the job of CMV driving, including:
  - Sustained vigilance and attention.
  - Quick reactions.
  - Communication.
  - Appropriate behavior.
- Discuss three categories of risk of associated with psychological disorders.
- Discuss driving stressors that may exacerbate symptoms of psychological disorders.
- Discuss why an individual with a psychological disorder may be held to a higher standard of CMV driving when compared to other jobs with public interaction.



# PSYCHOLOGICAL

Topic 3: Obtaining, reviewing, and documenting driver medical history, including prescription and over-the-counter (OTC) medications.

## **Global Objectives**

### **Health History**

- Recall that history is completed by the driver.
- Identify the health history questions that are specific to the psychological disorders.
- Give examples of psychological historical findings.
- Explain how the example findings affect the physical examination and/or certification outcome.

## **Psychological Standard Objectives**

### **Obtaining and Reviewing**

- Discuss the importance of having the driver with a mental disorder indicate onset date, diagnosis, treating provider name and address, and any current limitation.
- Discuss rationale for having the driver with a known or suspected mental disorder evaluated by an appropriate mental health professional.
- Review medical guidance for interviewing the driver with a known or suspected mental health disorder.
- Discuss the relationship between the disease process and medical examiner ability to obtain an adequate and accurate health history.
- Review non-verbal signs that may indicate additional evaluation should be performed to determine if a mental disorder interferes with the ability of the driver to operate a CMV safely.
- Discuss screening tests and/or techniques that medical examiners may use to determine if more extensive examination is required before making a certification determination.

### **Documenting**

- Review minimum health history documentation listed on the Medical Examination Report form.

# PSYCHOLOGICAL

Topic 4: Performing, reviewing, and documenting the driver medical examination.

## **Global Objectives**

### **Physical Examination**

- Recall that the Medical Examination Report form Body System "Check For" list targeting psychological examination requirements.
- Describe the correct way to comment on abnormal findings according to the instructions in Section 7, Physical Examination, of the Medical Examination Report form.
- Recall that the affect of an abnormality on the ability of the driver to operate a CMV safely should be noted. Recall that abnormal findings should be discussed with the driver and the discussion documented.

### **Psychological Standards Objectives**

### **Examination of the Psychological Disorders**

- Discuss abnormal physical examination findings in listed Body Systems that may be indicative of a psychological disorder.
- Discuss physical side effects of medications used to treat psychological disorders, and whether or not they interfere with the ability to drive safely.
- Give an example of documenting findings that have an underlying psychological disorder.

# PSYCHOLOGICAL

Topic 5: Performing, obtaining, and documenting additional diagnostic tests or medical opinion from a medical specialist or treating physician.

## Global Objectives

### Ancillary Tests and Evaluation

- Recall that additional tests and/or evaluation should be obtained when examination findings are inconclusive for determining medical fitness for duty.
- Recall that additional test results and evaluation used to assess medical fitness for duty must be included with the Medical Examination Report form.
- Differentiate between the role of the medical examiner to determine medical fitness for duty and the role of the primary care provider to diagnose and treat the condition.

## Psychological Guidance Objectives

### Additional Evaluation Considerations

- Recall that FMCSA medical guidance recommends that diagnosis and evaluation of psychological disorders be performed by an appropriate mental health professional.
- Recall the recommended considerations for case-by-case determination of medical fitness for duty, including:
  - Do the mental disorder, the symptoms, and the disturbances in performance, which are an integral part of the disorder, pose hazards for driving?
  - Do residual symptoms occur after time-limited, reversible episodes or initial presentation of the full syndrome that can interfere with safe CMV driving?
  - Does psychopharmacology compromise performance to the degree that CMV driving would be hazardous?

### Medical Guidance for Psychological Disorders

- Review general guidelines for waiting periods, including:
  - Start dates.
  - Reasons to restart.
  - Length of waiting period.
  - Conditions of waiting period, e.g., symptom free.
- Discuss medical guidelines for psychological disorders, including:
  - Adult attention deficit hyperactivity disorder.
  - Bipolar mood disorder.
  - Major depression.
  - Personality disorders.
  - Schizophrenia and related psychotic disorders.

**NOTE:** According to FMCSA medical guidance, determination is not based on diagnosis alone, because it may not affect individual driver ability to function. However, a diagnosis of schizophrenia is usually disqualifying.

# PSYCHOLOGICAL

Topic 6: Informing and educating the driver about medications and non-disqualifying medical conditions that require remedial care.

## Global Objectives

### Discussion and Education

- Recall that the medical examiner has a responsibility to inform and educate the driver about use, effects, and/or side effects of medication that can interfere with safe driving.
- Discuss the importance of encouraging the driver with a non-disqualifying medical condition to seek appropriate remedial care that may prevent or delay future condition-related disqualification.

## Psychological Standards Objectives

### Non-disqualifying Psychological Conditions

- Give examples of drivers with non-disqualifying psychological conditions and discuss:
  - Why in the examples the drivers can be qualified.
  - What steps the drivers should be advised to take to correct or control conditions.
  - How the condition affects the ability of the drivers to operate CMV.

### Psychological Agents

- Discuss possible side effects of psychological agents that might interfere with safe driving.
- Give examples of medical examiner discussion and advice that demonstrates the importance of relating information to driving ability and driver certification.
- Consider the affect on driver discussion when a psychological agent is used to treat a physical condition.

### Waiting Periods

- Recall that a driver may need to complete a waiting period before consideration for certification and explanation should include:
  - The conditions of the waiting period (e.g., time frame, symptom free, and no suicidal ideation).
  - Identification of what would cause a waiting period to restart.

# PSYCHOLOGICAL

Topic 7: Determining driver certification outcome and period for which certification should be valid.

## Global Objectives

### Certification outcome

- Recall that medical examiner must determine certification status in accordance with FMCSA Physical qualification standards.
- Recall that only driver medical examiner certificate modifications that can be required are printed on the Medical Examination Report form status and the medical examiner's certificate.
- Discuss how medical guidance is used to help determine driver certification status. Recall that maximum certification period can not exceed 2 years.

## Psychological Standard Objectives

### Certification of the Driver

- Discuss what risk assessment criteria the medical examiner considers when drivers have mental disorders, including:
  - Symptoms.
  - Recurrent and/or residual symptoms.
  - Disturbance in function.
  - Medications used to treat mental disorders.
  - Effects of non-compliance with medical treatment plan.
- Review FMCSA general medical guidelines for certification of the driver with a history of a psychological disorder, including:
  - Completes an appropriate symptom-free waiting period.
  - Is cleared by an appropriate mental health professional.
  - Complies with a treatment program that does not interfere with safe driving.
  - Meets all physical qualification standards.
- Recall that the maximum period for which a driver with a history of a psychological disorder should be certified is 1 year.

### Do Not Certify the Driver

- Review FMCSA general medical guidelines recommending not to certify the driver with a history of a psychological disorder, including:
  - An active psychosis is present.
  - Prominent negative symptoms are present, including:
    - Substantially compromised judgment.
    - Attention difficulties.
    - Suicidal behavior or ideation.
  - Side effects from psychiatric medications interfere with safe driving.

# PSYCHOLOGICAL

Topic 8: FMCSA reporting and documentation requirements.

## **Global Objectives**

### **Documentation**

- Demonstrate correct documentation of driver certification status on the Medical Examination Report form.
- Demonstrate correct completion of medical examiner's certificate.
- Recall that the only modifications that a medical examiner can impose with driver certification are those that are printed on the Medical Examination Report form and medical examiner's certificate.

## **Psychological Standards Objectives**

### **Psychological Documentation**

- Recall that additional psychological evaluation and testing obtained to determine medical fitness for duty must be included with the Medical Examination Report form.
- Give an example of documenting the decision to certify a driver with a psychological condition for 1 year.
- Give an example of documenting the decision not to certify a driver with a psychological condition.

# PSYCHOLOGICAL

## Self-checks

Self-checks are a stem and key example resource for developing knowledge mastery learning strategies, such as discussion, drill-and-practice, and pre- and post-topic comprehension assessment interactions. Use of self-check content is optional.

## Stems and Keys

### Psychological Risk Assessment Recall

#### Stem

According to medical guidelines, what are three areas of risk when a driver has a mental disorder?

#### Key

Risks associated with:

- The symptoms of the mental disorder itself.
- Residual or recurrent symptoms after time-limited, reversible episodes or initial presentation.
- The side effects of the medication taken for the disorder.

#### Stem

According to medical guidelines, give examples of questions a medical examiner may ask to assist in determining certification of a driver with a history of psychological disorder.

#### Key

Applicable questions include:

- Have you ever been hospitalized for a psychiatric issue?
- Have you ever thought of hurting yourself?
- Have you ever thought of suicide?
- Have you attempted to commit suicide through crashing a vehicle?
- Do you often fight?
- Do you think or have you ever thought of hurting or killing other people?
- Do you experience problems concentrating or remembering things?
- Do you hear or have you heard voices that other people do not hear or have not heard?
- Do you see or have you seen things that other people do not see or have not seen?
- Do you take any medications for a nervous disorder?

#### Stem

When evaluating a driver with a psychological disorder that might interfere with safe operation of a CMV, what behaviors should an examiner look for?

#### Key

According to medical guidelines, a medical examiner should look for:

## PSYCHOLOGICAL

- Any suspicious, evasive, threatening, or hostile behaviors.
- Signs of being easily distracted.
- Signs of flat affect or lack of emotional response.
- Displays of unusual or bizarre ideas, auditory or visual hallucinations, dishonesty, or a tendency to omit important information.

### Psychological Medications Recall

#### Stem

According to medical guidance, can a driver be certified if he/she is taking amitriptyline for depression?

#### Key

According to medical guidance, drivers taking amitriptyline should not be certified. However, this is a medication that may be prescribed in small dosages. Some medical examiners, in consultation with appropriate mental health professionals, may determine that a driver is stable and has no adverse side effects that interfere with driving. Documentation should indicate that the rationale and medical evidence that supports the certification decision.

### Psychological Medication Evaluation Application

#### Stem

A driver with a history of depression presents taking a prescription selective serotonin reuptake inhibitor (SSRI) but appears depressed. What would the medical examiner do to adequately assess the driver?

#### Key

The medical examiner should have the driver evaluated by an appropriate mental health professional, who would treat and monitor the driver (e.g., adjust medication dosage or type to achieve effective treatment of the depression).

Before the medical examiner would certify the driver, the driver would have to complete a symptom-free waiting period and have an effective, well tolerated treatment plan, with no side effects that impair the ability of the driver to operate a CMV safely.

### Psychological Certification Determination Analysis

#### Stem

According to medical guidelines, give examples of reported CMV driver symptoms and findings that may lead a medical examiner to decide not to certify the driver.

#### Key

On a case-by-case basis, the degree/level of severity of symptoms and/or findings requires evaluation. Some examples include:

- Emotional/adjustment problems — Have been linked to changes in memory, reasoning, attention and judgment (e.g., severe bereavement).
- Functional Disorders — May cause drowsiness, dizziness, confusion, weakness, and paralysis, which may lead to poor coordination, inattention, loss of functional control, and increased risk of crashes while driving.
- Physical fatigue, headache, impaired coordination, recurring physical ailment, chronic "nagging" pain (e.g., severe cluster headaches) to a degree that CMV driving is inadvisable.
- Disorders of periodic incapacitation may warrant disqualification (e.g., schizophrenia, bipolar mood disorder).



## PSYCHOLOGICAL

# PSYCHOLOGICAL

## Scenarios

The objective of the clinical scenario is to reinforce application of the FMCSA regulations and guidance in the clinical setting, to effectively perform the driver physical examination. Use of example cases are optional. When used, the scenario can be used as a whole or in part to develop learning strategies as vignettes, role plays, simulations, and group discussion. Remember that all FMCSA medical examiner certification test items assess knowledge acquired through training in the context of medical examiner performance of critical tasks.

The format used to present the medical facts for the scenarios is based on the data a medical examiner records on the Medical Examination Report form.

**Scenario 1: Driver with history of attempted suicide**

**Scenario 2: Driver with neurological deficits and psychological findings**

## Medical Examination Report Form — Scenario 1 Mr. John Smith

### Mr. Smith—Recertification Examination

Sex: Male | Age: 43 | Height: 71" | Weight: 190 lbs.

### Health History

Yes response(s): Nervous or psychiatric disorders (e.g., severe depression; regular, frequent alcohol use).

Medication(s): paroxetine (Paxil) 40 mg, once daily.

### Health History Comments

Mr. Smith provided a letter from his psychiatrist that is dated 4 months ago. Record includes:

- History of the suicide attempt 6 months prior to report (10 months prior to current examination).
- Suicide attempt followed the drowning death of 2-year-old son in a swimming pool accident.
- Psychiatrist clearance to return to work and normal activities.

Mr. Smith admits to seeking professional help because of feelings of excessive guilt over the incident; however he denies current suicidal or homicidal ideation or hallucinations. He denies any adverse side effects from the paroxetine (Paxil). He admits to drinking several cups of coffee per day, drinking 1-2 beers on weekends only, and denies any other drug use.

He says he needs to be certified to drive or he will lose his job. He has been a CMV driver and working for his current employer for the last 10 years with a "clean" driving record.

Family history: His father had a history of depression and died of a acute myocardial infarction (AMI) at 83 years of age; his mother has a history of depression and remains functional on medication.

### Vision

Uncorrected Acuity: Rt. Eye: 20/20 Lt. Eye: 20/20 Both: 20/20

Horizontal Field of Vision: Rt. Eye: 80° Lt. Eye: 80°

Meets standard only when wearing: corrective lenses? No

## PSYCHOLOGICAL

Color: Can distinguish red green and amber colors? Yes

Monocular Vision? No

### Hearing

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: 5 Feet Lt. Ear: 5 Feet

Audiometric test hearing loss average: Rt. Ear: N/A Lt. Ear: N/A

### Blood Pressure/Pulse

BP-132/84 P-84 & Regular

### Urinalysis

SP. GR.: 1.020 | Protein: Neg: | Blood: Neg | Glucose: Neg

### Physical Examination Comments

Although he related being stressed, his affect is normal, his appearance appropriate, and personal hygiene good.

Physical examination is unremarkable.

## Stems and Keys

### Best Outcome

#### Stem

What is the certification decision in this scenario?

#### Key

Disqualify the driver until successful completion of recommended waiting period, then re-examine driver. According to medical guidelines, following a severe depressive episode, suicide attempt, or manic episode, driver should be symptom-free for 1 year.

### Discussion with Driver Application

#### Stem

Discuss information the medical examiner should include when explaining the reason for disqualification, the time frame used, and what Mr. Smith needs to do in order to recertify.

#### Key

Explain that the medical examiner is following FMCSA medical guidelines, which say a driver should complete a 1-year, symptom-free waiting period before recertification consideration following a suicide attempt. Next steps could

## PSYCHOLOGICAL

include obtaining a current evaluation by the psychiatrist to evaluate risks associated with divorce and child custody stress.

Related item discussion could include the following with the medical examiner:

- Contacting the employer and explaining the conditions of the temporary disqualification of the driver.
- Providing the driver with a copy of the Medical Examination Report form. The form documents the reason for temporary disqualification and states when the driver may be certified, if at that time he meets FMCSA physical qualification requirements.

### Medical Examination Report Form — Scenario 2 Mr. Adam Taylor

#### Mr. Taylor—Certification Examination

Sex: Male | Age: 22 | Height: 72" | Weight: 182 lbs.

#### Health History

Yes response(s): None.

Medication(s): None.

#### Health History Comments

Mr. Taylor presents for a first-time CMV driver certification. He states that he "feels fine." All responses on history are "No." He denies taking any medications. Admits to smoking 2 packs of cigarettes per day and drinks 10 "Jolt" colas per day. He presents with poor eye contact and flat affect.

#### Vision

Uncorrected Acuity: Rt. Eye: 20/20 Lt. Eye: 20/20 Both: 20/20

Horizontal Field of Vision: Rt. Eye: 90° Lt. Eye: 90°

Meets standard only when wearing: corrective lenses? No

Color: Can distinguish red green and amber colors? Yes

Monocular Vision? No

#### Hearing

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: 5 Feet Lt. Ear: 5 Feet

Audiometric test hearing loss average: Rt. Ear: N/A Lt. Ear: 31.6

#### Blood Pressure/Pulse

BP-120/68 P-96 & Regular.

# PSYCHOLOGICAL

## Urinalysis

SP. GR.: 1.020 | Protein: Neg: | Blood: Neg | Glucose: Neg

## Physical Examination Comments

1. There is tremor at rest, with left eyelid tic.
2. Pupils sluggish, extraocular eye movements lack convergence.
4. His mouth is dry.
9. Refused to pull down his pants for the hernia exam; became agitated and stated that he "can't undress."
12. Mild ataxia. Rhomberg positive.

Significant concern about psychological pathology. Mr. Taylor declined to participate in Mini Mental Status Exam, saying, "These questions are dumb."

## Stems and Keys

### Best Outcome

#### Stem

What is the certification decision in this scenario?

#### Key

Disqualify pending mental health and neurological examinations. The minimal physical examination was also not able to be completed, thereby resulting in disqualification.

## Risk Assessment Analysis

#### Stem

What findings and interactions combine to support the need for a psychological evaluation?

#### Key

Mr. Taylor is uncooperative, has inconsistent responses, has flat affect and is easily provoked, and the medical examiner is unable to perform a reliable history and physical examination.

## DRUG ABUSE & ALCOHOLISM

# Training Provider Handbook: Drug Abuse & Alcoholism –Module Overview

### Goal

FMCSA certified medical examiners will assess the driver for signs and symptoms of substance abuse, take appropriate action to confirm or rule out such abuse, and document examination findings and effect on fitness for duty, in accordance with FMCSA physical qualification standards and policies. Medical examiners will be make certification decisions with awareness of the DOT Office of Drug & Alcohol Policy & Compliance governing commercial motor vehicle (CMV) drivers with a suspected or known substance abuse history.

### Competencies

Training should prepare the medical examiner to appropriately apply knowledge of mental health standards and guidance to the performance of these tasks. Also, Medical Examiner Certification Test items directly assess these tasks.

#### Identification and History

- Identify, query, and note issues in a driver's medical record and/or health history as available, which may include:
  - substance use and abuse, for example:
    - alcohol
    - illicit or legal drugs
    - narcotics

#### Physical Examination and Evaluation

- Examine driver's mental status and note:
  - comprehension and interaction
  - cognitive impairment, for example
    - orientation
    - intellect
    - memory
    - obsessions
    - circumstantial/tangential
    - speech
  - signs of depression, paranoia, antagonism, or aggressiveness, which may require follow-up with a mental health professional

#### Diagnostic Tests and/or Referrals

- Obtain additional information when indicated by:
  - blood analyses (e.g., electrolytes, toxicology, blood chemistries)
  - drug-level monitoring (e.g., digoxin, theophylline)
- Refer a driver who exhibits evidence of any of the following disorders for follow-up care and evaluation by an appropriate specialist or primary care provider
  - mental/emotional health (e.g., depression, schizophrenia)

#### Documentation of Ancillary Information

- Review results of substance abuse professional (SAP) evaluations for alcohol and drug use and/or abuse by a driver with:
  - a. alcoholism – who completed counseling and treatment to the point of full recovery
  - b. prohibited drug use – who shows evidence he/she is now free from such use

# DRUG ABUSE & ALCOHOLISM

## Health Education Counseling

- Advise a driver:
  - regarding side effects and interactions of medications and supplements (e.g., narcotics, anticoagulants, psychotropics), including over-the-counter (OTC) medications (e.g., antihistamines, cold and cough medications), which could negatively affect his/her driving
- Inform the driver of the rationale for delaying or potentially disqualifying certification, which may include
  - health dysfunctions (e.g., depression, bipolar)

## Risk Assessment

- Consider such general health and wellness factors as:
  - adverse health effects associated with rotating work schedules and irregular sleep patterns
  - long-term effects of fatigue associated with extended work hours without breaks
  - risk factors associated with common dietary choices available to drivers
  - stressors likely associated with extended time away from driver social support system

## Certification Outcomes and Intervals

- Disqualify a driver who:
  - is currently taking methadone
  - has a current clinical diagnosis of alcoholism
  - uses a controlled substance, including a narcotic, an amphetamine, or another habit-forming drug, without a prescription from the treating physician
- Disqualify a driver when evidence shows a condition exists that will likely interfere with safe operation of a CMV, which may include sufficient supporting opinions and information from specialists

## FMCSA Content Sources

At the completion of training, the medical examiner should be able to use the following FMCSA regulations and guidance resources to correctly perform driver substance and alcohol use assessment:

- 49 CFR 391.41(b)(13) Physical qualifications for drivers
- 49 CFR 391.43(f) **Instructions** Medical examination; certificate of physical qualification Part 382: Controlled substances and alcohol use and testing
- 49 CFR Part 40 Procedures for Transportation Workplace Drug and Alcohol Testing Programs
- Medical Examination Report form and Advisory Criteria
- Medical examiner's certificate
- FMCSA Medical Examiner Handbook, Drug Abuse and Alcoholism, 49 CFR 391.41(b)(12)(13)

# DRUG ABUSE & ALCOHOLISM

Topic 1: Background, rationale, mission, and goals of the FMCSA medical examiner's role in reducing crashes, injuries, and fatalities involving CMVs.

## Global Objectives

### Regulation and Guidance

- Recall that regulations or standards are laws and must be followed.
- Recall that medical examiners are responsible for determining if the CMV driver is medically qualified and safe to drive under the Federal Motor Carrier Safety Regulations (FMCSRs).
- Recognize that guidelines are intended as best practices for medical examiners.

## Drug Abuse and Alcoholism Standards Objectives

### Driver Physical Qualification Requirements

- Recall that drug use that is disqualifying for CMV driver certification is cited in 49 CFR 391.41 (b)(12).
- Recall that alcohol use that is disqualifying for CMV driver certification is cited in 49 CFR 391.41 (b)(13).
- Give examples of substance abuse that can interfere with safe driving, including:
  - Illegal substances.
  - Prescription substances.
  - Over-the-counter (OTC) substances.
- Discuss the rationale that any misuse, wrong use, and, especially, excessive use of anything that is potentially injurious, harmful, or likely to interfere with the ability of the driver to safely operate a CMV renders the driver medically unfit for duty.

### Medical Examiner Responsibilities

- Recall that the medical examiner is responsible for being aware of the mental and emotional demands placed on the CMV driver.
- Recall that the medical examiner should obtain additional evaluation by appropriate mental health professionals, which may include:
  - Breath alcohol technician (BAT).
  - Designated employer representative (DER).
  - Medical review officer (MRO).
  - SAPs.

**NOTE:** Definitions for BAT, DER, MRO, and SAP can be found in Subpart A - Administrative Provisions § 40.3.

### Instructions to Medical Examiner

- Discuss advisory criteria instruction for drug use, including:
  - Recommendation not to certify a driver who uses methadone.
  - Schedule 1 drug includes marijuana and is disqualifying, including "medical marijuana" or marijuana for "medicinal use."
  - Who to contact when a driver presents at examination with signs and symptoms of substance abuse.
  - Relationship between medical examiner and SAP when recertifying a driver who was medically disqualified for drug abuse.
- Discuss advisory criteria instruction for alcoholism, including when a driver:
  - Should be referred to a specialist.
  - Can be reconsidered for certification.



## DRUG ABUSE & ALCOHOLISM

# DRUG ABUSE & ALCOHOLISM

Topic 2: Familiarization with the responsibilities and work environment of commercial motor vehicle (CMV) operation.

## **Global Objectives**

### **Job of CMV Driving**

- Describe the safety implications of the job of CMV driving for the driver and the public.
- Give an example of how work environment impacts the ability of the driver to operate a CMV safely.

## **Drug Abuse and Alcoholism Standards Objectives**

### **Drug Abuse and Alcoholism Safety Implications**

- Recall the cognitive demands of the job of CMV driving, including:
  - Sustained vigilance and attention.
  - Quick reactions.
  - Communication.
  - Appropriate behavior.
- Discuss evidence that drug and alcohol use and abuse interfere with driving ability.
- Review how the risks of fatalities, injuries, and property damage are multiplied when a CMV is involved in a crash.
- Discuss how the job of CMV driving can contribute to some drivers misusing drugs and alcohol.

### **49 CFR 382 Alcohol and Drug Rules**

- Review general drug and alcohol rules affecting CMV drivers.
- Review employer responsibilities for implementing and conducting drug and alcohol testing programs.

# DRUG ABUSE & ALCOHOLISM

Topic 3: Obtaining, reviewing, and documenting driver medical history, including prescription and over-the-counter (OTC) medications.

## **Global Objectives**

### **Health History**

- Recall that history is completed by the driver.
- Identify the health history questions that are specific to substance abuse.

## **Drug Abuse and Alcoholism Standard Objectives**

### **Obtaining and Reviewing**

- Discuss how documentation from an SAP is crucial to obtaining an adequate history of the driver with a known substance abuse history.
- Review medical guidance for discussing drug use, including prescription, OTC, and other medications/supplements that can be abused.
- Review non-verbal signs that may indicate additional evaluation for substance abuse is appropriate.
- Discuss screening tests and/or techniques that medical examiners may use to assess for substance abuse.

### **Documenting**

- Review minimum health history documentation listed on the Medical Examination Report form in relationship to known and suspected substance abuse.

# DRUG ABUSE & ALCOHOLISM

Topic 4: Performing, reviewing, and documenting the driver medical examination.

## **Global Objectives**

### **Physical Examination**

- Recall that the Medical Examination Report form Body System "Check For" list addresses assessment for drug abuse and alcoholism.
- Describe the correct way to comment on abnormal findings, according to the instructions in Section 7, Physical Examination, of the Medical Examination Report form.
- Recall that the effect of an abnormality on the ability of the driver to operate a CMV safely should be noted.
- Recall that abnormal findings should be discussed with the driver, and the discussion documented.

## **Drug Abuse and Alcoholism Standards Objectives**

### **Examination for Drug Abuse and Alcoholism**

- Discuss abnormal physical examination findings, in listed Body Systems, that may be indicative of drug abuse or alcoholism.
- Discuss physical side effects of medications used to treat drug abuse or alcoholism, and whether or not they interfere with the ability to drive a CMV safely.
- Give examples of documenting findings that relate to drug abuse or alcoholism, and the effect on driver ability to safely operate a CMV.

# DRUG ABUSE & ALCOHOLISM

Topic 5: Performing, obtaining, and documenting additional diagnostic tests or medical opinion from a medical specialist or treating physician.

## Global Objectives

### Ancillary Tests and Evaluation

- Recall that additional tests and/or evaluations should be obtained when examination findings are inconclusive for determining medical fitness for duty.
- Recall that additional test results and evaluation used to assess medical fitness for duty must be included with the Medical Examination Report form.
- Differentiate between the role of the medical examiner to determine medical fitness for duty and the role of the primary care provider to diagnose and treat the condition.

## Drug Abuse and Alcoholism Guidance Objectives

### Additional Evaluation Considerations

- Recall that interstate CMV drivers are governed 49 CFR Part 382: Controlled substances and alcohol use and testing regulations regulations.
- Review "return to transportation safety-sensitive duty" driver requirements.
- Recall that ongoing voluntary attendance at self-help groups:
  - Does not fulfill the requirement to complete SAP rehabilitation program.
  - Are not disqualifying when used for maintenance of recovery.
- Give examples of additional medical assessment that may be required, secondary to a history of drug abuse and alcoholism (e.g., target organ damage, balance).

# DRUG ABUSE & ALCOHOLISM

Topic 6: Informing and educating the driver about medications and non-disqualifying medical conditions that require remedial care.

## Global Objectives

### Discussion and Education

- Recall that the medical examiner has a responsibility to inform and educate the driver about use, effects, and/or side effects of medication that can interfere with safe driving.
- Discuss the importance of encouraging the driver with a non-disqualifying medical condition to seek appropriate remedial care that may prevent or delay future condition-related disqualification.

## Drug Abuse and Alcoholism Standards Objectives

### Non-disqualifying Drug and Alcohol Use

- Recall that a current clinical diagnosis of drug abuse or alcoholism is disqualifying.
- Give examples of drug use, including over-the-counter (OTC) supplements, and alcohol use that is non-disqualifying but warrants medical examiner discussion with driver regarding substance use:
  - Risks associated with OTC diet, energy, and sleep aids.
  - Prescription and OTC pain medications.
  - Risks associated with combining medications and alcohol.

# DRUG ABUSE & ALCOHOLISM

Topic 7: Determining driver certification outcome and period for which certification should be valid.

## Global Objectives

### Certification Outcome

- Recall that medical examiner must determine certification status in accordance with FMCSA physical qualification standards.
- Recall that the only driver medical examiner certificate modifications that can be required are printed on the Medical Examination Report form, status section, and the medical examiner's certificate.
- Recall that maximum certification period cannot exceed 2 years.

## Drug Abuse and Alcoholism Standard Objectives

### Do Not Certify the Driver

- Recall that according to regulation, do not certify the driver who:
  - Uses a mind- or body-altering substance, illegal or legal, in a manner that interferes with safe driving.
  - Abuses alcohol and/or drugs.
  - Has a current clinical diagnosis of alcoholism.

### Recertification

- Recall that recertification of the driver disqualified for alcohol or drug abuse requires the driver to:
  - Have a substance abuse evaluation.
  - Have a negative drug test result.
  - Present SAP documentation of successful completion of the SAP-required rehabilitation program.

# DRUG ABUSE & ALCOHOLISM

Topic 8: FMCSA reporting and documentation requirements.

## **Global Objectives**

### **Documentation**

- Demonstrate correct documentation of driver certification status on the Medical Examination Report form.
- Demonstrate correct completion of medical examiner's certificate.
- Recall that the only modifications that a medical examiner can impose with driver certification are those that are printed on the Medical Examination Report form and medical examiner's certificate.

## **Drug Abuse and Alcoholism Standards Objectives**

### **Drug Abuse and Alcoholism Documentation**

- Recall that SAP documentation of successful completion of a drug rehabilitation program, as well as a negative drug test result, should be included with return-to-duty certification.



# DRUG ABUSE & ALCOHOLISM

## Self-checks

Self-checks are a stem and key example resource for developing knowledge mastery learning strategies, such as discussion, drill-and-practice, and pre- and post-topic comprehension assessment interactions. Use of self-check content is optional.

## Stems and Keys

### Drug Abuse and Alcoholism Regulation Recall

#### Stem

Is testing for controlled substances part of the requirement of the CMV driver physical examination?

#### Key

No. However, the medical examiner may require additional testing, including testing for controlled substances, if indicated.

### Drug Abuse and Alcoholism Medical Guidance Recall

#### Stem

What is the Advisory Criteria for the “Drug Use” definition of “habit forming”?

#### Key

The term “habit-forming” is intended to include any drug or medication generally recognized as capable of becoming habitual, and impair the user’s ability to operate a CMV.

#### Stem

According to medical guidance, can a driver be certified while taking methadone for chronic pain management?

#### Key

Methadone is a habit-forming narcotic that can produce drug dependence. Methadone is not an allowable drug for CMV operators; see Question 3 under Physical qualifications and examinations on the Physical qualifications for drivers Interpretation for Physical qualifications for drivers page.

### Drug Abuse and Alcoholism Best Practice Application

#### Stem

A driver checks “Yes” for “Regular, frequent alcohol use.” The medical examiner should determine the:

#### Key

1. Time pattern for alcohol use (e.g., every day).
2. Quantity of alcohol ingested (e.g., six 12-oz beers each weekend).

#### Stem

What concerns should a medical examiner have regarding a driver on multiple medications who reports regular, daily, moderate use of alcohol?

## DRUG ABUSE & ALCOHOLISM

### **Key**

The driver should be evaluated for:

- Current alcoholism.
- Medication interaction with alcohol, potentially causing impairment.
- Effects alcohol may have on the underlying condition.
- The impact of alcohol on medications, including effectiveness of treatment, and leading to other side effects.

### **Drug and Alcohol Testing Program Recall**

#### **Stem**

The medical examiner may require a driver to be evaluated by an SAP and successfully complete a rehabilitation course if the driver \_\_\_\_\_.

#### **Key**

Admits to alcohol or drug abuse.

# DRUG ABUSE & ALCOHOLISM

## Scenarios

The objective of the clinical scenario is to reinforce application of the FMCSA regulations and guidance in the clinical setting to effectively perform the driver physical examination. Use of example cases is optional. When used, the scenario can be used as a whole or in part to develop learning strategies such as vignettes, role plays, simulations, and group discussion. Remember that all FMCSA medical examiner certification test items assess knowledge acquired through training in the context of medical examiner performance of critical tasks.

The format used to present the medical facts for the scenarios is based on the data a medical examiner records on the Medical Examination Report form.

**Scenario 1: Driver with history of alcohol abuse**

**Scenario 2: Driver with signs and symptoms of alcoholism**

## Medical Examination Report Form — Scenario 1 Ms. Juanita Valdez

### Ms. Valdez—Recertification Examination

Sex: Female | Age: 42 | Height: 52" | Weight: 150 lbs.

### Health History

Yes response(s): None.

Medication(s): None.

### Health History Comments

Ms. Valdez admits to have just completed her "first ever" 30-day alcohol rehabilitation that was court mandated after her reported "DUI." Ms. Valdez has a scheduled Alcoholic Anonymous meeting this evening. She is on no reported medication. She has had no known SAP evaluation, but admits to seeing "rehab counselors" and an "alcoholic doctor" evaluation within the "rehab" facility.

### Vision

Uncorrected Acuity: Rt. Eye: 20/25 Lt. Eye: 20/20 Both: 20/20

Horizontal Field of Vision: Rt. Eye: 80° Lt. Eye: 80°

Meets standard only when wearing: corrective lenses? No

Color: Can distinguish red, green, and amber colors? Yes

Monocular Vision? No

### Hearing

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: 5 Feet Lt. Ear: 5 Feet

Audiometric test hearing loss average: Rt. Ear: N/A Lt. Ear: N/A

### Blood Pressure/Pulse

# DRUG ABUSE & ALCOHOLISM

BP-138/86 P-96 & Regular

## Urinalysis

SP. GR.: 1.030 | Protein: Neg: | Blood: Neg | Glucose: Neg

## Physical Examination Comments

No odor of alcohol on breath. No Hepatosplenomegally. No palmer erythema.

Rest of examination is unremarkable.

## Stems and Keys

### Best Outcome

#### Stem

What is the certification decision in this scenario?

#### Key

Disqualify, pending Substance Abuse Program (SAP) evaluation.

Ms. Valdez appears to have an active diagnosis of alcoholism. Therefore, pending additional information, including SAP evaluation, Ms. Valdez should not be qualified to operate a CMV currently with an apparent diagnosis of alcoholism.

## Medical Examination Report Form — Scenario 2 Mr. Frank Wolf

### Mr. Wolf—Recertification Examination

Sex: Male | Age: 22 | Height: 72" | Weight: 140 lbs.

#### Health History

Yes response(s): None.

Medication(s): None.

#### Health History

Medical staff reports that during ancillary testing, Mr. Wolf was acting "silly" and not always following verbal commands well.

Mr. Wolf admits to "past" use of illicit drugs and "overuse" of prescription narcotic medication. No history reported of arrests for such activities, and no reported history of "rehabilitation" treatment / Narcotics Anonymous attendance.

#### Vision

Corrected Acuity: Rt. Eye: 20/20 Lt. Eye: 20/20 Both: 20/20

Horizontal Field of Vision: Rt. Eye: 85° Lt. Eye: 85°

## DRUG ABUSE & ALCOHOLISM

Meets standard only when wearing: corrective lenses? No

Color: Can distinguish red, green, and amber colors? Yes

Monocular Vision? No

### Hearing

Hearing aid used for test? No

Hearing aid required to meet standard? No

Whisper test: Rt. Ear: 5 Feet Lt. Ear: 5 Feet

Audiometric test hearing loss average: Rt. Ear: N/A Lt. Ear: N/A

### Blood Pressure/Pulse

BP-138/88 P-96 & Regular

### Urinalysis

SP. GR.: 1.020 | Protein: Neg | Blood: Neg | Glucose: Neg

### Physical Examination Comments

No odor of alcohol on breath. Intermittently not responding to verbal commands.

Distal upper extremities skin with vein area needle tract marks of various ages, some appearing very fresh.

Eyes – pupils myotic OU, and not responsive.

Heel-to-toe examination is abnormal.

Rest of examination is unremarkable.

### Stems and Keys

#### Best Outcome

##### Stem

What is the certification decision in this scenario?

##### Key

Disqualify, pending SAP evaluation.

Notify driver and employer of narcotic use/illicit drug use, and current examination reveals signs that he may currently be under the influence of some substance. Therefore, pending additional information, including SAP evaluation:

- Mr. Wolf should not be qualified to operate a CMV currently.
- Due to public safety issues if Mr. Wolf is allowed to leave the examination facility and operate any type of motor vehicle on his own, both the driver and his employer should be notified that. With the available information, Mr. Wolf is at elevated risk for harm to self and other (the public) with current operation of any type of motor vehicle. Therefore, another form of transportation from the examination facility must be secured.

## DRUG ABUSE & ALCOHOLISM

- The medical examiner signs the Medical Examination Report form and is accountable for accuracy. When an examiner has to disqualify a driver, it is a good practice to verify any staff-reported medical evidence that contributes to the decision.